

LIGHT WAVE

The Toaster Emulator

Warm and Fuzzy

WOCA SPECIAL: RUN LIGHTWAVE 3D WITHOUT A TOASTER!

Amazing

COMPUTING™

Your Original AMIGA® Monthly Resource

For The Commodore

AMIGA

Volume 8 No. 11 November 1993
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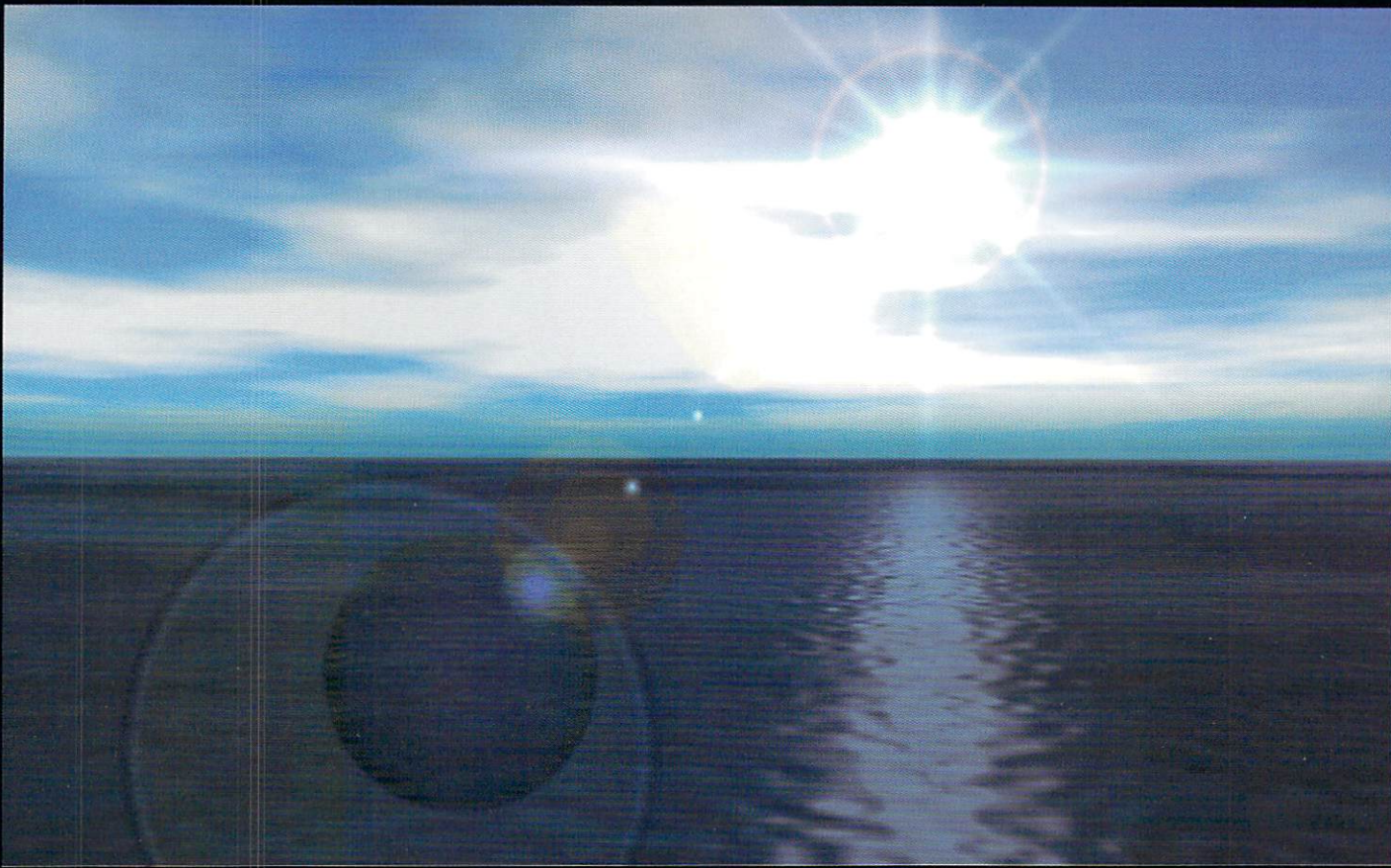
FEATURE REVIEW

Brilliance!



L I G H T R A V E

LightWave without the Toaster? The solution is **L I G H T R A V E**



HIGH SPEED EMULATION: LightRave is a custom hardware module that emulates all of the Toaster functions needed by LightWave 3D™!

TOASTER FREEDOM: LightRave enables any Amiga to run LightWave 3D™ without requiring a Video Toaster to be installed.

NEW ADVANCED FEATURES: LightRave adds a suite of professional features never before available to LightWave 3D™ users.

FASTER!! LightRave will render images faster than a Toaster equipped Amiga, as no lengthy display time to the Video Toaster™ is required.

FEATURES:

TRUE 24 BIT DISPLAY: Rendering is no longer limited to the Toaster's composite display alone. LightRave now allows LightWave 3D™ to render directly to the most popular 24 bit graphic cards.

Supported cards include the GVP IV24, Retina, Opalvision, DCTV, Firecracker 24, EGS Spectrum*, as well as Amiga, and Amiga-AGA displays.

PAL COMPATIBLE: LightRave makes LightWave 3D™ fully functional for European PAL users.

FAST ANIMATIONS: Full screen preview animations previously only available on the Toaster-4000™ are now available to all LightWave 3D™ users. Animations are stored in standard Amiga "Anim" animation formats and may be transferred and edited by other Amiga programs.

Circle 149 on Reader Service card.

NETWORKING: LightRave is fully network compatible. From the low cost Parnet to high end ethernet solutions. LightRave is the perfect solution for LightWave 3D™ "Render Farms".

IMAGE PROCESSING: Render directly to GVP's ImageFX, where frames can be image processed even before being saved to disk.

FULLY COMPATIBLE: Works with the entire Amiga line of computers. Even the Amiga 500 and the new Amiga 1200!

SYSTEM REQUIREMENTS:

- LightWave 3D™ 2.0 or 3.0 required.
- Compatible with all Commodore Amiga models, both NTSC and PAL.
- Workbench and Kickstart 2.04 or later.
- LightWave 3D™ requires a minimum 512 chip ram and 512K fast ram.
- Extended memory and hardware acceleration are recommended.
- * EGS support may require Image FX.

Warm and Fuzzy Logic
2302 Marriot Road • Richmond, VA 23229
804-285-4304



A 2000

A 3000

A 4000

IV24™ 2.0 PRODUCT LAUNCH



DO IT YOURSELF KIT



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With some 24 bit video boards you pay your money and take your chances. Chances that they'll be up and flying in the future. Chances that all the "enhancements" they promised will be around tomorrow.

Let's be fair. Where do things stand *today*?



	IV24™	OpalVision™
Integrated video genlock	✓	○
1.5MB 24-bit, 16.8 M color frame buffer	✓	○
Real-time framegrabber/digitizer	✓	○
De-interlaced video flicker eliminator	✓	○
VIU-S™ with RGB, composite, S-VHS input/outputs	✓	○
Optional VIU-CT™ pro-grade component transcoder (Betacam, M-II compatible) input/outputs	✓	○
2-way moveable, sizeable PIP (picture in picture) display, (video over application or application over video)	✓	○
Digital and analog key inputs	✓	○
Captured image retouching/processing	✓	○
Video switcher transitions	✓	○
Real-time 24 bit paint	✓	○
Titling/character generation	✓	○
Animation/3-D rendering	✓	○
Karate game	✓	○

The VIU Advantage:

From the very beginning we figured that people who purchase a serious video card want much more than fun and games. GVP is serious about video! So IV24's Video Interface Unit gives you more choices for inputting and outputting video signals than any other Amiga® peripheral on the market. Period. Nobody else gives you a VIU splitter, let alone one that integrates video from computer sources, component tape formats, composite video, even broadcast professional formats—in any combination you can imagine. GVP also offers an international (PAL) standard IV24.

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MyLAD™ • Hot-switch between 2 video sources with 50 packaged video transitions for live action production studio effects.

Macropaint-IV24™ 2.0 • (New release—Significantly enhanced!) Paint 24 bit graphics from a stunning palette of 16.8 million colors. Then key video over graphics or graphics over video. Access ARexx scripts directly.

Caligari24™ • IV24's newest software bonus is a complete 3-D modeling/animation/rendering package. Desktop animation's future—on your Amiga today.

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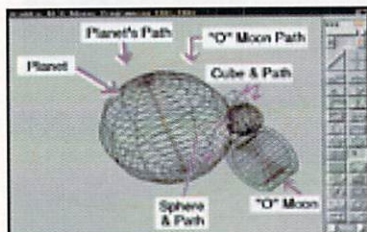
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Cover art by
Frank McMahon

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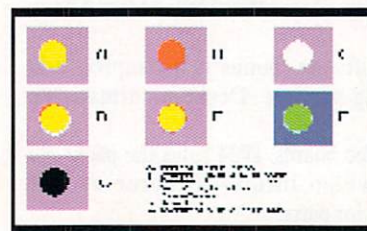
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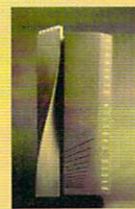
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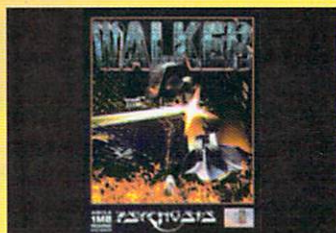
With *VLab* from MacroSystemUS, the power of 30fps capturing is finally available.

And Furthermore...

NewTek's Toaster Screamer brings super speed to *LightWave* rendering.



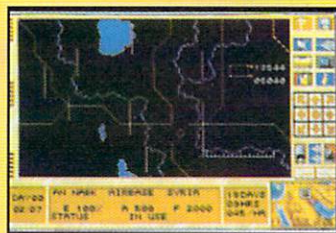
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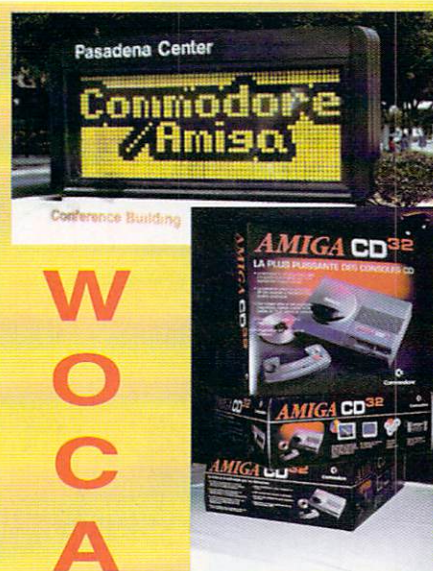
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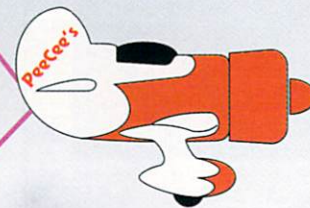
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A500 USERS

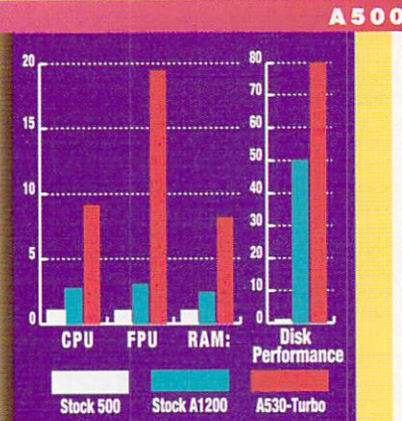
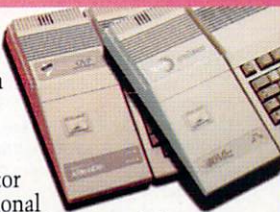
Don't let *anyone* tell you that your A500 is obsolete! Adding a GVP A500-HD8+™ or an A530-Turbo+™ will make your A500 feel like a totally new machine. Our A530-Turbo+ will make your A500 fly 4 times faster than an A1200 and many applications will run almost as fast as on an A4000! All this for much less than buying a new A1200 with a hard drive!

Both the A500-HD8+ and the A530-Turbo+ feature beautifully styled cases, fast DMA SCSI controller with external SCSI "pass through", SIMM sockets for adding up to 8MB of FAST RAM expansion, built-in high-speed SCSI hard drive (choose from 40MB to 540MB!), "Game

Switch" to disable the whole unit for compatibility with older games, and GVP's exclusive internal mini-slot expansion connector for adding our optional 16MHz PC286 (PC Emulator) module!

The A530-Turbo+ also features a 40MHz 68EC030 CPU (accelerator), optional 40MHz 68882 FPU (Floating Point math co-processor, and 60ns, 32-bit wide FAST RAM.

If you already own a hard drive, call for details on our great "A530-Turbo+ Trade-Up!" deal.



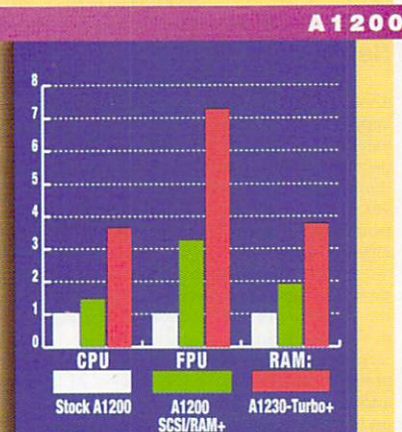
A1200 USERS

The A1200's AGA graphics are great, *but* they eat up memory and can be slow with the built-in 68EC020 processor and no FAST RAM. GVP now offers two exciting Power-Up solutions.

GVP's A1200 SCSI/RAM+™ (a.k.a. "FANG") features SIMM sockets for up to 8MB of 60ns, 32-bit wide FAST RAM expansion, a high performance DMA SCSI controller allowing installation of an internal 2.5" SCSI hard drive, and an optional 33MHz 68882 FPU. The optional external SCSI connector kit allows you to attach *large* SCSI Hard Drives, CD-ROM drives, SyQuest drives, Tape Backup drives, or any other external SCSI device. Although the

A1200 SCSI/RAM+ supports faster FPU's, our tests show that the A1200's 14MHz 68EC020 cannot really take advantage of a 68882 running faster than 33MHz.

If you want your A1200 to fly past the A3000 and approach the A4000's performance, our A1230 Turbo+™ accelerator (a.k.a. "JAWS") is for you. The A1230 Turbo+ features a blindingly fast 40MHz 68EC030 CPU, SIMM sockets for up to 32MB of fast 60ns, 32-bit wide memory expansion, and an optional 40MHz 68882 FPU.



A2000 USERS

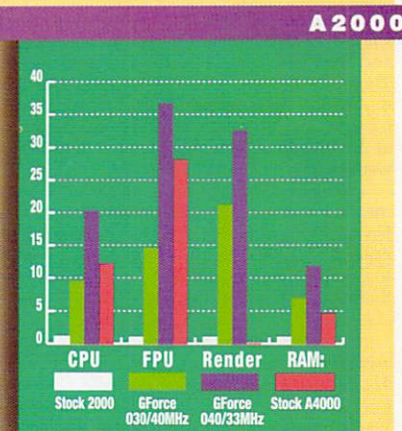
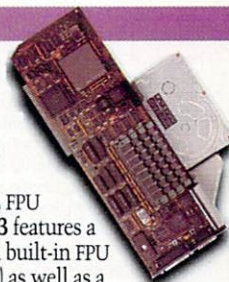
Don't let *anyone* tell you that the A2000® is obsolete! Adding a GVP G-Force 040/33MHz™ Accelerator will make your A2000 outperform the fastest A4000/040 and you'll spend a lot less! If you are on an even tighter budget try our G-Force 030/40MHz™ Accelerator and you will zoom past both the A3000 and A4000/030.

All our G-Force Accelerators feature a high-performance DMA SCSI controller and 4MB of fast 60ns, 32-bit wide RAM, expandable up to 16MB by using our 4MB SIMMs. The G-Force 040/33 also accommodates our new state-of-the-art 16MB SIMMs allowing expansion up to a massive 64MB of fast 60ns, 32-bit wide memory. Our optional SCSI Hard-Drive mounting bracket turns either model into the ultimate "Hard-Disk-Card"

without using a Zorro expansion slot or a peripheral bay.

The G-Force 030/40 is equipped with a 40MHz 68EC030 CPU and 68882 FPU while the G-Force 040/33 features a 33MHz 68040 CPU (with built-in FPU and large cache memory) as well as a high-performance RS232 serial port — backed up by two FIFO hardware buffers to prevent data loss — and a parallel port to give you more flexibility to add modems, multiple printers, digitizers, etc....!

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A few words about the tests: The CPU and FPU test results were generated by AIBB 5.5 by LaMonte Koop. The Render test results for the A2000 were generated with LightWave 3D by NewTek. The RAM and Hard Disk test results were generated with DiskSpeed 4.2 by MKSoft.

Circle 106 on Reader Service card.

EDITORIAL CONTENT

The World of Commodore Amiga (WOCA) in Pasadena (September 10-12, page 81) was a significant event for the Commodore Amiga. I believe I heard more new product announcements at WOCA than I have in some time. From Commodore's CD32 to U.S. Cybernetics Inc.'s Warp transputer system, attendees spent three days seeing just how far current Amiga technology can go. I was pleased and excited at the resources in the Amiga marketplace. GVP, DKB, IVS, MacroSystemsUS, and other large Amiga manufacturers demonstrated new hardware and software solutions. Smaller Amiga companies also offered a wild variety of new products. Some companies launched products that surprised everyone.

NewTek is faced with a problem similar to the one they created for the broadcast industry suppliers several years ago.

NewTek

This should be a very good time for NewTek. Their Toaster 4000 has received extremely good support and consumer acceptance. While not an exhibitor at SIGGRAPH, NewTek did use the opportunity to hold a party with an announcement of their Screamer (see the And Furthermore on page 96). Tim Jenison and Paul Montgomery also appeared in the pages of *Fortune* magazine's Autumn 1993 special issue.

The Toaster design group and NewTek president, Tim Jenison, have won Emmy awards from the Academy of Television Arts and Sciences for developments in television engineering. The design team members have been recognized as Paul Montgomery, project supervisor; Steve Kell, core level and control programming; Ken Turcotte, system and core level programming; Charles Steinkuehler, hardware design and development; Allen Hastings, LightWave 3D development and programming; Steve Hartford, ToasterCG development and project coordination; Daniel Kaye, interface design, ChromaFX development, and project coordination; and Peter Tjeerdsma, effects and interface design. They are scheduled to receive the statuettes during the Creative Arts portion of the 45th Annual *Primetime Emmy Awards* to be held on Saturday, September 18, at the Pasadena Civic Auditorium—where only a week before WOCA held its event.

The Engineering Committee of ATAS recommended that the NewTek design team and Mr. Jenison be awarded an Emmy for "developing computer technology that has brought many editing tools out of high-priced editing suites, and made them available on desktops of the television creative community."

Toaster accolades continue as the televised awards ceremony is promised to heavily utilize the Toaster and LightWave 3D. Jennifer McKnew of the Post Group stated, "The 3-D imagery I have created for the Emmy Awards captures all the elegance and vibrance of anything that could have been created by traditional means." These effects will be seen in the 3-D opening, title treatment, and bumper elements during the show.

Other award winners, Ron Thornton, Shannon Casey, and Paul Beigle-Bryant of Foundation Imaging are also committed Toaster users. Mr. Beigle-Bryant commented, "Without the Toaster and LightWave 3D, the special effects in *Babylon 5* would not exist."

From Emmy award ceremonies to Amblin Television's *seaQuest DSV*, the Video Toaster has impressed the market with its abilities. These are tremendous achievements and any company should

be proud and applauded for what they have accomplished. But NewTek is faced with a new problem.

Enter LightRave

At WOCA, a small and very new company, Warm and Fuzzy Logic, introduced and sold LightRave. LightRave offers Amiga users access to LightWave 3D software without the need of a Video Toaster. LightRave's hardware device is placed over the serial port (there was no pass-through to connect other serial devices from this port) and allows the Amiga's standard hardware to create, render, and display LightWave 3D images. Now users can utilize one of the Video Toaster's major software advantages without a Toaster.

Did W&F L do anything wrong by producing a product that could use another company's software? As long as they have not stolen the engineering, but have created a separately engineered product that will work without exception with the software they describe, in my opinion (based on hundreds of similar situations), they have not erred.

The retail price for the product will be \$499. They sold out of their first run of LightRave at WOCA. The messages I saw from LightRave users on the networks claimed that the units performed excellently.

LightRave's promoters have promised LightRave is PAL compatible, this opens an entire new market to LightWave 3D. Until now, Amiga users in Europe, Asia, and Australia could not use a Video Toaster based on NTSC. Their PAL video and computer systems were incompatible. Now, if your Amiga is a PAL system, LightWave 3D will still work. LightRave reportedly will work on an Amiga 500 system and up as well as with third-party display cards. One LightRave on display at WOCA was using an OpalVision card. Some display card drivers such as the one for GVP's EGS board are promised in the first free upgrade to all LightRave users. Also, if the Amiga is either an A1200 or an A4000, LightRave takes advantage of the AGA.

So, as far as providing a product for the mass market, W&F L have succeeded. But LightRave relies on the ability to utilize NewTek's software. When I asked Mike Vunck, W&F L's president, how users would be able to get the software without buying a Toaster, he replied the software required was available through NewTek's 3.0 upgrade program.

I then asked Mr. Vunck about the concerns of unauthorized duplication of LightWave 3D and he stated every LightRave registration asks for the serial number of the user's Video Toaster. While this does not guarantee that the software will be used in a legal and acceptable manner, it does demonstrate W&F L's concerns. Yet, with LightRave and a properly purchased 3.0 Toaster software upgrade, the need for a second Video Toaster, or in some cases any Toaster at all, no longer exists. The request for a Toaster registration number becomes a useless exercise.

NewTek's Position?

NewTek issued a "No Comment" concerning LightRave and its company. Since the product has just been announced and since the product's potential effect in regards to NewTek has yet to be determined, NewTek's response is not just predictable, it is correct. They need time to consider their options.

I have no inside information concerning NewTek's agreements, royalties, or conditions in regards to LightWave 3D. Yet, like most other Amiga users, I always believed LightWave 3D would require the use of a Video Toaster. Now LightRave has changed our concept of the Toaster.

Who Is Responsible?

Is it NewTek's task to make certain that every copy of LightWave is purchased and used correctly? Is it W&F L's responsibility to make certain that their LightRave is used with only properly purchased LightWave 3D software? Not really. It is impossible for either of these companies to completely police their users. It is the Amiga users who must accept the responsibility in using these products properly.

If the users see no harm in buying LightRaves and securing copies of LightWave 3D by other means, then nothing will stop them. If NewTek is required by their software licensing agreement to hold back a supply of 3.0 upgrade software, the demand for software could easily drive the market to illegally reproduce LightWave 3D. Even if LightRave was taken off the market, it would not stop another engineering team from learning how it was done and reverse-engineer a new LightRave clone.

As Amiga users, we are faced with a serious problem. We must be certain LightRave users understand what is behind LightWave 3D and use it correctly. They must ask, "Without the Toaster as an automatic sale to every LightWave 3D user, will NewTek be able to support LightWave 3D as before?"

If the people listed above are not compensated for their award-winning work, can we expect them to continue supplying us the same quality software and hardware? If LightWave 3D becomes extremely popular in Europe when barely no software has been sold there (as has happened to several other Amiga companies), can we continue to expect NewTek's or any other major software company's support for the Amiga market.

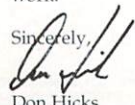
What Is Next?

NewTek is faced with a problem similar to the one they created for the broadcast industry suppliers several years ago. A smart, aggressive newcomer has developed an inexpensive product to do things their more expensive product also does. Granted, the Video Toaster is a lot more than just a tool for LightWave 3D, but LightWave 3D is a significant part of the Toaster's fame.

In the past, NewTek has always amazed the Amiga market with its ability to make breakthrough marketing decisions. I would be surprised if we did not see a low cost LightWave 3D software product bundled with each LightRave or some other means to safeguard their property. This would be a great way to attract new Toaster users. To do this, NewTek may need to rewrite some of their current royalty agreements. However, the potential for greater sales as well as the ability to sell LightWave to Amiga PAL users should make this an easy proposition.

For now, we must remember that the only way NewTek can afford to support the community of LightWave 3D users is by selling software to each. If LightWave 3D becomes another illegally duplicated product, then we run the risk of losing a valued Amiga developer. Because no company, no matter how well applauded or awarded can remain successful if it does not receive a fair rate for its work.

Sincerely,

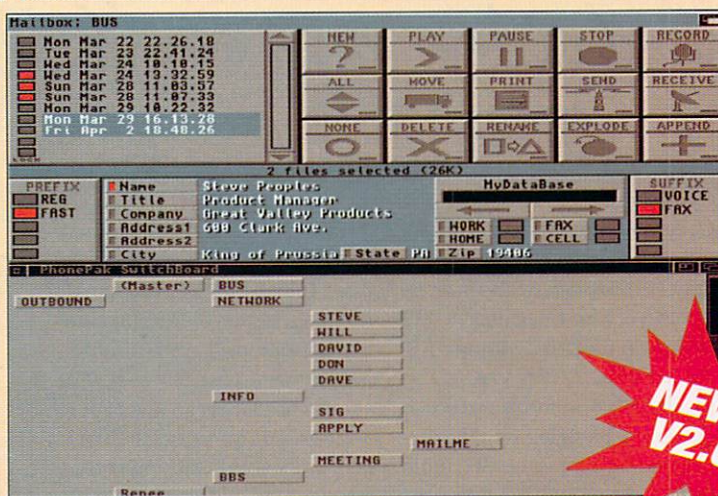

Don Hicks
Managing Editor

IF YOU WANT **FAX** VERSATILITY...
AND **VOICE MAIL** POWER...



A2000
A3000
A4000

YOU NEED **PHONEPAK VFX™**!



**NEW!
V2.0**

Some Significant Features

	Fax Machine+ Answering Machine	PhonePak VFX 2.0
Automatic voice/fax switch	Maybe	Yes
Voice and fax messages in the same call	No	Yes
Multiple mailboxes	No	Yes
Voice message/fax privacy	No	Yes
Plain paper fax printing	No (Unless you spend a lot more)	Yes
Paperless faxing (both out and in)	No	Yes
Near-laser quality fax generation	No	Yes
Batch/broadcast faxing	No	Yes
Scheduled fax transmission	No (Unless you spend a lot more)	Yes
Call screening	Yes	Yes
Centrex/PBX call transfer	No	Yes
Auto dialer*	30 numbers	Unlimited
Message forwarding/paper alert*	No	Yes
Time and date stamp*	Yes	Yes
Remote access to voice messages*	Yes	Yes
Remote access to faxes*	No	Yes
Street price	\$499+\$99=\$598	\$299/line

*New/enhanced for 2.0

In addition to all this, PhonePak multitasks and is fully ARexx programmable, allowing you to build interactive, multi-line voice and fax information systems. Try that on a PC!

**From simple to sophisticated, PhonePak is taking care of business...
and working overtime!**



GREAT VALLEY PRODUCTS, INC. • 600 CLARK AVENUE, KING OF PRUSSIA, PA 19406 USA
PHONE 215-337-8770 • FAX 215-337-9922

PhonePak VFX and Operator are trademarks of Great Valley Products, Inc. Amiga is a registered trademark of Commodore-Amiga, Inc. All other trademarks are the property of their respective owners.
©1993 Great Valley Products, Inc.

NEW PRODUCTS

and other neat stuff

3.0SP Multimedia Controller

Computer edit control of up to six industrial and prosumer video decks is provided by the new Interactive MicroSystems 3.0SP (\$995) Multimedia Controller. RS-422, RS-232, LANCS, ViSCA, and MediaPhile® protocols are chosen by simply plugging into the corresponding connector. Six audio time code inputs provide near frame-accurate editing with prosumer decks. Industrial decks with internal linear of VITC time code are controlled with perfect frame-accuracy. The wide range of control options makes this unit ideal for editing between Hi-8mm and SVHS formats.

The companion MediaEditor™ edit-decision list program (\$450) makes recording scenes from player video decks with special effects easy. *Interactive MicroSystems, Inc., 9 Red Roof Lane, Salem, NH 03079, (603) 898-3545. Inquiry #200*

AccuTrans 3D

AccuTrans 3D (\$59.95) is a file translation utility for 3D object files. Read and write 3D formats for AutoCADDXF, Imagine, Turbo Silver 3.0, LightWave 3D, VideoScape 3D, Modeler 3D, and Sculpt 3D/4D. Positional and rotational information is maintained. Transfer attributes between files such as color, index of refraction, reflection, specularity, and Phong shading. Objects can be scaled on both reading and writing the file. Memory allocation is dynamic and the only limits are the amount of RAM in the computer. *MicroMouse Productions, 847 Athol Street, Regina,*

Saskatchewan, Canada S4T 3B6, (306) 522-6077. Inquiry #201

Blues Tutor

Blues Tutor (\$29.95) is a structured, rhythmic system of learning how to play true blues keyboard, utilizing left-hand bass patterns with varied chordal progressions. It is MIDI-based and utilizes the user's own sequencer (which must read standard MIDI files), providing a familiar interface and also a ready means for recording progress. *DevWare, Inc., 12520 Kirkham Court, Suite 1, Poway, CA 92064, (619) 679-2828. Inquiry #202*

Crouton Tools, Module #1 of The Scene Machine

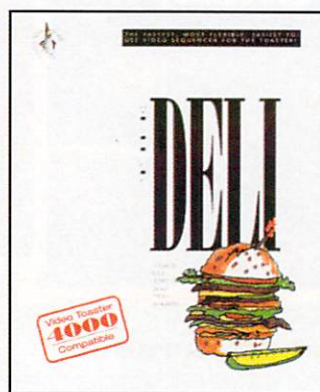
The Scene Machine Module #1, Crouton Tools, is the first in a series of modules (programs) and tools which will help you build complete scenes and execute these applications right from your Video Toaster. With Crouton Tools, powerful programs such as Toaster software, Art Department Pro 2+, AmiLink, Personal SFC, and others can be added to your Toaster's working environment. Put all of these powerful programs a mouse click away—as if they were part of the Toaster's functions! *DevWare, Inc., 12520 Kirkham Court, Suite 1, Poway, CA 92064, (619) 679-2828. Inquiry #203*

The Deli

The Deli (\$225) is an exciting new sequencing program that will save time and reduce frustration by making it easier than ever to store, sequence, and revise your still image programs on videotape. The Deli drastically reduces the

number of commands you need to execute to store frames, assign names or numbers to them, arrange them in sequence, add or delete frames later, or change the sequence entirely. And on a one-by-one basis, you can easily and quickly program the image's duration on the screen, as well as the Toaster transition effect used between images.

The Deli can even control selected RS-232C decks, with serial interface, using either time code or control track. *Personal Video Wizards, 7836 Second Avenue So., Bloomington, MN 55420, (612) 881-3340. Inquiry #204*



EXCELSIOR! Professional BBS 1.0

EXCELSIOR! Professional BBS 1.0 is now available! It was designed completely under release 2 of the AmigaDOS O/S. The BBS offers features not found on any other BBS software package currently available. EXCELSIOR! is now being distributed with: TrapDoor-The Amiga's premier front-end mailer; XMAIL!- EXCELSIOR!'s own FIDONET mail processor; XLINK!- State-of-the-art linking system. *Sycom Design, PO Box 452, St. Clair Shores, MI 48080, (800) 243-1230 (USA), (313) 774-2153 (INTL). Inquiry #205*

F17 Challenge

Take Pole Position at the front of the grid in this exciting arcade-style race game! Race your way through 16 championship circuits around the world and aim to be the F17 Champion. Fast-moving graphics together with excellent gameplay make F17 Challenge the

game to be reckoned with! *Team 17, Marwood House, Garden St., Wakefield, West Yorkshire, WF1 1DX, (011) 44-924-291867. Inquiry #206*

Hangul-Alpha 2.1

Mesa Graphics announced the release of Hangul-Alpha 2.1, a Korean language word-processor and video titler for the Amiga. Hangul-Alpha 2.1 offers more fonts and greater support for hi-res displays than previous versions of the software.

Hangul-Alpha 2.1 has a SRP of \$129.95. The software includes a Korean/English text editor, a video titler, and a hi-res printing utility. All three programs offer IFF/ILBM compatibility, menus, and requesters in Korean and English, and support for any Preferences printer. *Mesa Graphics, 909 East 49 1/2 St., Austin, TX 78751, (512) 452-2441. Inquiry #207*

Home Manager Professional

Home Manager Professional is a personal information manager appropriate for both home and professional users. Home Manager Professional contains the following organizing and scheduling modules: Address Book, Appointment Calendar, Area Codes, Contacts Database, Inventory, NotePad, To Dos, Wallet, and Config. All areas have an on-line Alarm Clock function, on-line help window, extensive search capabilities, palette control function, full print features, uniform display of date and time, and much more. *DevWare, Inc., 12520 Kirkham Court, Suite 1, Poway, CA 92064, (619) 679-2828. Inquiry #208*

MathVISION Video Gold

Seven Seas Software, Inc. has announced an innovative video special effects package that includes the program MathVISION Video Gold, 1.5 hours of training, extensive E-mail support, and a no-risk, money-back guarantee. MathVISION Video Gold (\$749), with 24-bit and AGA chip set support, includes video production scripts and specialized techniques for building custom wipes, distortions, warps, and correspond

The Toaster System Integrator.

T-Rexx Professional is a highly integrated ARexx script generation environment with powerful tools specifically designed for the NewTek Video Toaster. T-Rexx can also automate the functions of 11 other important products, and, because it is completely user configurable, you can add support for the products of your choice.

Benefits

1. Create sophisticated scripts without any knowledge of ARexx. You simply point and click. T-Rexx even displays your scripts in plain English!

2. All T-Rexx tools are connected together creating a fully integrated system. You need learn only one user interface to master every aspect of T-Rexx Professional.

3. You can quickly and easily manage large quantities of Toaster Framestore images. Convert Framestores to and from RGB (in full color and fidelity) without requiring a Toaster.

4. You can create your own ActionFX and OrganicFX to produce custom results for your demanding clients. Using T-Rexx's special effects processing, dozens of new FX can be created from a single source.

5. You can create and modify Toaster projects creating exactly the configuration which best meets your needs.

6. Develop scripts in a fraction of the time it used to take using T-Rexx's unique Real Time Mode. You can test your scripts as you write them, alerting you to any mistakes instantly.

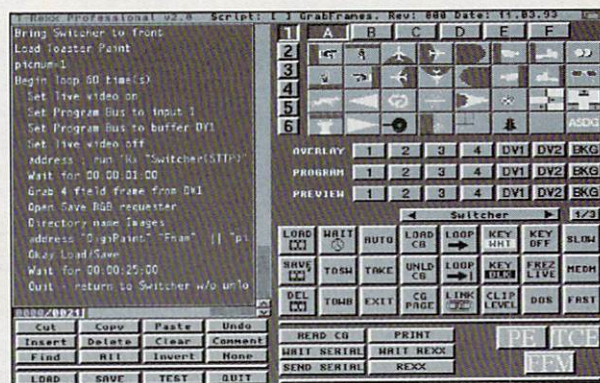
7. Using one consistent, easy-to-learn user interface, you can control any program that is ARexx compatible or any device that can

accept commands via a serial or parallel port. *Your entire studio, not just your Toaster, can be controlled by T-Rexx giving you more time for producing results instead of hunting for solutions.*

Includes support for the following products: AmiLink, Art Department Professional, BCD-2000A, DQ-Taco, MediaPhile, MorphPlus, PC-VCR, Personal SFC II, Personal TBC III, Pixel 3D, SunRize Studio 16 and VISCA.

8. T-Rexx allows you to create interactive or automated multimedia presentations by linking the Video Toaster to other hardware and software products. T-Rexx's ability to be synchronized to events from the GPI, serial port, parallel port, keyboard, ARexx or timer means you've got the widest array of options available for your creative use. T-Rexx can even automate the recording of your finished presentation (including audio) onto video tape or single frame recorders.

9. T-Rexx provides powerful batch processing tools which save you time and disk space. Process images as they're produced automatically, without having to store intermediate results.



10. Your script is shown in plain English on T-Rexx Professional's main screen.



11. Framestores can be converted to/from RGB, previewed and organized using FramestoreFM.

TREXX

Professional

T-Rexx helps you get the most of your system investment because an integrated system is greater than the sum of its parts. T-Rexx Professional is the Toaster System Integrator!

ASDG

925 Stewart Street Madison, WI 53713
608/273-6585

T-Rexx Professional is backed by ASDG, a solid company providing innovative products and quality customer support since 1986.

The following names are trademarks or registered trademarks of the indicated companies: T-Rexx Professional, MorphPlus, FramestoreFM, LightTV, ShareFX, and Art Department Professional: ASDG Incorporated, ARexx: Wishful Thinking Development Corp., Deluxe Paint: Electronic Arts, Brilliance: Digital Creations, Inc., Amiga: Commodore-Amiga, Inc., Video Toaster, Toaster, ToasterPaint, and LightWave 3D: NewTek Incorporated. Other trademarks are the property of their respective holders. The Video Toaster Logo is copyrighted by NewTek Incorporated and is used with permission. Copyright © 1993 by ASDG Incorporated

NEW PRODUCTS

and other neat stuff

ing animations.

Seven Seas offers ongoing E-mail support and in addition, provides a moderated newsletter and an unmoderated listserver. *Seven Seas Software, Inc., P.O. Box 1451, Port Townsend, WA 98368, (206) 385-1956. Inquiry #209*

Montage 24

InnoVision Technology announced its new Montage 24 (\$399.95) video titling and graphics software for Amiga AGA, OpalVision, and ImpactVision 24 systems. Montage 24 enables popular Amiga 24-bit graphics cards to produce network caliber titles and graphics in 16 million colors. Montage 24 produces razor sharp anti-aliased titles with real time Click & Drag font scaling. The new program supports import and export of 24-bit IFF and Super High Res HAM8 images. *InnoVision Technology, 1933 Davis St., Suite 238, San Leandro, CA 94577, (510) 638-8432. Inquiry #210*

Mozart's Music Master

Mozart's Music Master (\$29.95) makes music reading and learning theory easy. With this instructional program the user can learn music note reading, interval theory, interval ear training, and learn to identify the four standard scales and know their intervals. *DeoWare, Inc., 12520 Kirkham Court, Suite 1, Poway, CA 92064, (619) 679-2828. Inquiry #211*

PIV-2001

The PIV-2001 software and hardware system allows your Amiga computer to have integrated video editing capabilities. From basic "cuts-only" to fully integrated A/B roll editing with the Video Toaster, the PIV-2001 solution will

make your desktop video workstation complete.

The PIV-2001 hardware includes eight RS-422A-compatible serial ports, and eight GPI trigger outputs. Enough to control a recorder, three source machines, and AMX-100 compatible switcher. Any extra ports can be used to connect additional video decks. *Pride Integrated Video Systems, 2715 Australian Ave., West Palm Beach, FL 33407, (800) 678-3942. Inquiry #212*

Strikes-N-Spares Bowling

Beyond Entertainment is proud to announce the release of Strikes-N-Spares Bowling (\$49.95). Strikes-N-Spares offers a 3-D perspective of the lanes and gives the most realistic feel of bowling to come from a computer. Two interfaces are offered. The ball can be thrown with a mouse or screen gadgets are available for total control over ball speed, position, curve, and direction. Multiple players are supported and a player roster is also available to store individual statistics. Strikes-N-Spares is hard-drive installable, supports multitasking, and will run on all Amiga models with 1MB of RAM. *Beyond Entertainment, P.O. Box 81, Glendale, AZ 85311-0081, (602) 846-2006. Inquiry #213*

TruePoint CA-42

MicroTouch Systems, Inc. introduced the low-cost TruePoint CA-42 Touch Monitor (\$1,495), a durable touch screen monitor for Amiga-based multimedia, kiosk, training, and business applications. The TruePoint package includes the new high-resolution Commodore 1942 14-inch display, a completely integrated capacitive touch screen, controller, and the AmigaTouch Driver. *MicroTouch Systems, Inc., 300 Griffin Park, Methuen, MA 01844, (508) 659-9000. Inquiry #214*

The Video Palace

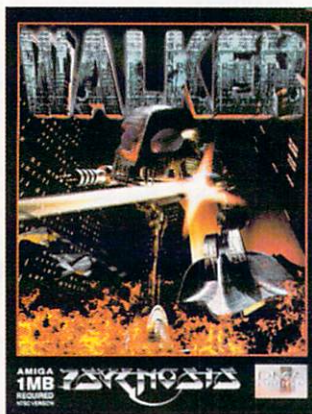
The Video Palace is an external interface box that has OpalVision™ mounted inside it. It comes equipped a 200 Watt power supply that will be integrally hooked up to the interface. The power supply will also have

extra connectors suitable for running different peripheral devices, and an output power plug for your Amiga 1200, 500, or any Amiga that uses the square type 5-pin DIN power plug. *Videopolis, 925 Grapevine Rd., Santa Maria, CA 93454, (805) 925-0970. Inquiry #215*

Walker

The shape grew in the dark. A grinding and clashing of metal filled the dank air as the immense bulk rose to its feet. Soldiers looked on, paralyzed by fear at the shape that now stood tall and menacing scant distance ahead. The machine settled itself, almost relaxing on its haunches like a puma in wait, muscles flinching, silent and purposeful. A powerful hum drew attention towards the towering monster as gun turrets swung smoothly into view and began to scan the scene.

And there they lay, face to face; the might of the Zvaalian Time-Bandits—a specially-trained unit with the latest weapons technology and the best back-up hardware money can buy—against the Walker, the war machine from the future. *Psygnosis, 675 Massachusetts Ave., Cambridge, MA 02139, (617) 497-5457. Inquiry #216*



Warp 10

Warp 10™ is the fastest morphing and warping software available for the Amiga. Warp 10 is using the computing power of the Vivid24 TMS34082 floating point coprocessors to perform morphs or warps at an unbelievable speed. Given enough RAM, Warp 10 can work with images as large as 32768 x 32768 pixels. The actual warp-

ing/morphing is controlled by a user-defined mesh which is overlaid on the source and target images. Warp 10 can render a preview of the morph or warp animation and play it in 24-bit real time. Warp 10 is available either as a stand-alone package for the Vivid24 graphics card or as an add-on module to the Animator Broadcast software for the Vivid24. Warp 10 requires at least one TMS34082 coprocessor with SRAM to be installed on the Vivid24. *RCS Management GMBH, Dammweg 15, 28211 Bremen, Germany, (011) 49-421-34787-46. Inquiry #217*

•Books•

Mapping the Amiga, Second Edition

More than just another programming book for the Amiga, Mapping the Amiga (\$27.95) includes a complete alphabetical listing of library functions—including new Revision 2.0 and 3.0 functions—with syntax given in both C and machine language. This reference guide is the only source that includes full descriptions of every Amiga hardware register and an element-by-element breakdown of each Amiga system structure. *Compute Publications International Ltd., 324 West Wendover Ave., Greensboro, NC 27408, (919) 275-9809. Inquiry #218*

•Other Neat Stuff•

Amiga Drives Videowalls

Optonica Ltd are proud to announce that they have now completed development of a range of Amiga-base software modules for the unique Expandaview Videowall system. The Expandaview System features the closest inter-tube gap between monitors, superb picture quality and brightness. In addition to the basic module for standard video use, Optonica has produced a range of software packages unique to the Expandaview System, from the basic 'Graphic Master' to the su

Special Offer for AC Readers!

AMOS (US), AMOS Compiler, and AMOS 3D

all three for only \$99.99*

Bring your Amiga to *Life!*

AMOS - The Creator is like nothing you've ever seen before on the Amiga. If you want to harness the hidden power of your Amiga, then AMOS is for you!

AMOS Basic is a sophisticated development language with more than 500 different commands to produce the results you want with the minimum of effort. This special version of AMOS has been created to perfectly meet the needs of American Amiga owners. It includes clearer and brighter graphics than ever before, and a specially adapted screen size (NTSC).

"Whether you are a budding Amiga programmer who wants to create fancy graphics without weeks of typing, or a seasoned veteran who wants to build a graphic user interface with the minimum of fuss and link with C routines, AMOS is ideal for you." *Amazing Computing, June 1992*

HERE ARE JUST SOME OF THE
▼ THINGS YOU CAN DO ▼

- ▶ Define and animate hardware and software sprites (bobs) with lightning speed.
- ▶ Display up to eight screens on your TV at once - each with its own color palette and resolution (including HAM, interlace, half-brite and dual playfield modes).
- ▶ Scroll a screen with ease. Create multi-level parallax scrolling by overlapping different screens - perfect for scrolling shoot-em-ups.
- ▶ Use the unique AMOS Animation Language to create complex animation sequences for sprites, bobs or screens which work on interrupt.
- ▶ Play Soundtracker, Sonix or GMC (Games Music Creator) tunes or IFF samples on interrupt to bring your programs vividly to life.
- ▶ Use commands like RAINBOW and COPPER MOVE to create fabulous color bars like the very best demos.
- ▶ Transfer STOS programs to your Amiga and quickly get them working like the original.
- ▶ Use AMOS on any Amiga from an A500 with a single drive to the very latest model with hard disk.

WHAT YOU GET!

AMOS (US)—AMOS BASIC, sprite editor, Magic Forest and Amosteroids arcade games, Castle AMOS graphical adventure, Number Leap educational game, 400-page manual with more than 80 example programs on disk, sample tunes, sprite files, and registration card.

AMOS Compiler—AMOS Compiler, AMOS language updater, AMOS Assembler, eight demonstration programs which show off the power of the compiler, and a comprehensive, easy-to-use manual to develop lightning fast software.

AMOS 3D—Object Modeler, 30 new AMOS commands, and more. AMOS 3D allows you to create 3D animations as fast as 16 to 25 frames per second. You can display up to 20 objects at once, mix 3D with other AMOS features such as sprites, bobs, plus backgrounds, and more.

Limited Time Offer for AC readers only!

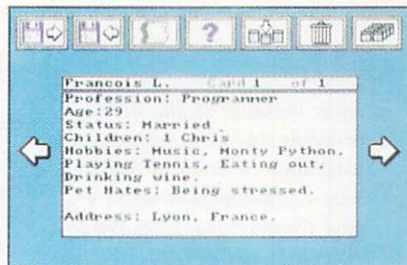
Get all three AMOS packages at one great price. Order today by sending your name, address (physical address please—all orders will be shipped by UPS), and \$99.99 (*plus \$10.00 for Shipping and handling) to: AMOS Special, PIM Publications, Inc., P.O. Box 2140, Fall River, MA 02722-2140 or use your VISA, MasterCard, or Discover and fax 1-508-675-6002 or call toll free in the US or Canada:

1-800-345-3360

Please allow 4 to 6 weeks for delivery.
AMOS written by François Lionet.
©1992 Mandarin/Jawx
Country of Origin: UK



Use the sophisticated editor to design your creations



Create serious software like Dataflex



Produce educational programs with ease



Play Magic Forest and see just what AMOS can do!



Design sprites using the powerful Sprite Editor



Create breathtaking graphical effects as never before

europress
SOFTWARE



NEW PRODUCTS

and other neat stuff

perbly versatile 'Studio VIP Plus' for nationwide point-to-multi-point installation of Point of Sale and Point of Information based systems. *Optonica, Ltd, 1 The Terrace, High Street, Lutterworth, Leics, England LE17 4BA, (011) 44-455-558282. Inquiry #219*

Amiga Online Reduces Price

Recently Area52 announced that Amiga Online Reference Manual will be shipping with a retail price of \$49.95. However, they have decided to lower the retail price to \$34.95 in order to encourage sales to new Amiga computer users. AORM has nearly increased in size by over 50%. Over 100 glossary words have been added, and an additional 200 answers to commonly-asked questions have also been added. Unfortunately free space on the disk has decreased. AORM will be shipping with under 3K of disk space. *Area 52, 107 River Park Dr., Liverpool, NY 13090-2841, (315) 622-2173. Inquiry #220*

Asimware Innovations

Asimware Innovations would like to inform you that effective October 4, 1993, they will have a new area code. The area code will change from 416 to 905. The actual phone numbers will remain unchanged. *Asimware Innovations, 101 Country Club Dr., Hamilton, Ontario, Canada L8K 5W4, (905) 578-4916, fax (905) 578-3966. Inquiry #221*

Axiom Software Moved!

Axiom Software, Inc., has moved from Bloomington, MN to Burnsville, MN. Please take note of the correct address and phone numbers. *Axiom Software, Inc., 1668 E. Cliff Rd., Burnsville, MN 55337-1300, (612) 849-0596, fax (612) 894-*

1127. *Inquiry #222*

DevWare News

DevWare, Inc., announced that it has acquired the international rights to exclusively distribute Toaster Toolkit 2.0 (\$179.95) from The Byte Factory and Cocoon (\$99.95) from Ironworker Studios. *DevWare, Inc., 12520 Kirkham Court, Suite 1, Poway, CA 92064, (619) 679-2828. Inquiry #223*

GENie News

GENie has restructured prices to insure the best possible value for its subscribers. Effective July 1, the monthly subscription fee is \$8.95, which includes up to four hours of non-prime time access to the most popular GENie services. GENie's non-prime-time connect rate drops to \$3 per hour.

Dialog® Database Center, provided by Advanced Research Technologies, Inc., is now available on GENie.

GENie now offers a Computer Press Association RoundTable, which allows subscribers to get full press kit information on-line. *GENie, 401 N. Washington St., VB2, Rockville, MD 20850-1785, (800) 638-9636. Inquiry #224*

OctaMED Professional Version 5

DevWare, Inc., has released the latest version of OctaMED Professional, the best-selling music and sound sequencer for the Amiga. New features include: 64 MIDI tracks capability; on-line hypertext instruction; ability to name blocks in the playlist, or attach strings of text; redefinable keys and mouse buttons; generic slide function; improved control over sampler and sample editor effects; and more. *DevWare, Inc., 12520 Kirkham Court, Suite 1, Poway, CA 92064, (619) 679-2828. Inquiry #225*

Oregon Research Announces Amiga Support

Oregon Research has just signed a long term agreement with HiSoft/AVR to provide distribution and product support for their entire line of Amiga products. Initially, they will be providing distribution and support for: Devpac 3,

HighSpeed Pascal, PowerBasic, HiSoft Basic 2, ProFlight, Clarity 16, AMAS 2, Stereo Master, MegaLoSound, ProMidi, and VideoMaster. *Oregon Research, 16200 S.W. Pacific Hwy., Ste. 162 Tigard, OR 97224, (503) 620-4919. Inquiry #226*

PhonePak VFX

GVP announces the release of a significant upgrade to their popular VoiceMail and Fax product, PhonePak VFX. Improvements in many areas now offer capability with telephone systems from Australia to Saudi Arabia. Additional features and commands have been designed to meet the growing demands of the personal user as well as custom applications. Additions include message forwarding, pager alert, enhanced remote access and remote time and date stamp. Additionally, PhonePak VFX 2.0 has an improved user interface, allowing more information to be displayed with Release2 or Release3 operating systems. Registered users can upgrade for \$49.95. *Great Valley Products, 657 Clark Ave., King of Prussia, PA 19406, (215) 337-8770. Inquiry #227*

Switchboard

Telephone Products introduced Switchboard (\$129), a phone line sharing device. Switchboard allows customers to use one phone line for phone, fax, and modem, each with an individual number. Using the local phone company's "distinctive ringing" service, Switchboard automatically sends an incoming call to the appropriate phone, answering machine, fax, or modem. Switchboard needs only to be plugged into a phone jack and does not require an additional power pack. *Telephone Products, P.O. Box 31203, Seattle, WA 98103, (800) 829-5960. Inquiry #228*

T-Rexx Professional Upgrade

ASDG Inc. announces the availability of version 2.1 of its highly rated T-Rexx Professional. The new release extends its control abilities to version 3.0 of the Toaster sys-

tem software and the Toaster 4000 hardware. Among the additions in T-Rexx Professional 2.1 are: ability to read and write Toaster 3.0 croutons and projects; access to the new "G," and "H," and "I" effects banks; support for the new Switcher commands; Toaster 3.0 "look and feel"; support for multiple Toaster devices. Existing owners of T-Rexx 2.1 can upgrade to T-Rexx 2.1 for the nominal fee of \$10. *ASDG, Inc., 925 Stewart St., Madison, WI 53713, (608) 273-6585. Inquiry #229*

Vertex Upgrades to 2.0

Vertex 2.0 has an array of new features: rotate free, EPS importing from ProDraw 2.0, fractal trees, hierarchy support, built-in attributes editor, backdrop grid with snap to, bezier curves, fast surface triangulation, slice plane, user-definable keyboard shortcuts, perspective from any view, plus much more. Extra attention was given to speeding up nearly all functions, including direct math coprocessor support, making the editing environment smoother and easier to use. Additionally, Vertex 2.0 now has a professionally printed spiral bound manual. *The Art Machine, 4189 Nickolas, Sterling Heights, MI 48310, (313) 264-2110. Inquiry #230*

*New Products and Other
Neat Stuff is compiled by
Elizabeth Harris.*

Correction

The correct contact information for Eye2Eye Design should be:

1633 6th Ave. West
Seattle, WA 98119
(206) 281-9165

Got a Great Idea for a Program? Make it Real with **CanDo!**



CanDo Lets you convert your ideas into reality.

CanDo is a software authoring system that gives you the power of a programming language, yet makes creating your program's interface as easy as using a paint program. Because CanDo is tailor-made for the Amiga, all of the exciting Graphics, Sounds, and mouse-driven Objects that are built into your computer are at your fingertips. This gives you everything you need to make your ideas come to life.

CanDo Makes real programs real easy.

Painlessly creating your interface is just the beginning. The key to making real programs is CanDo's English-like scripting language. Even if you're a beginner, you can still use CanDo's tools to write programs for you. While easy to learn and use, the commands are so powerful you can create programs which would take 10 times longer to write using a language such as C – even presuming you had years of programming experience.

CanDo Is programming for the rest of us...

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Circle 114 on Reader Service card

REVIEWS

Picasso II

by Mark Rickan

With the advent of the Amiga 1200 and 4000 series systems, Commodore ushered in a new era of graphics capabilities. Through AGA, it became possible for users to take advantage of display modes offering increased resolution and color. For many however, this advanced new chipset created a dilemma. While a 256-color desktop and the stunning HAM8 modes offered some tantalizing possibilities, the prospect of investing in a new system or parting with a longtime companion posed some concerns. Fortunately, a number of develop-

ers have addressed this situation by offering affordable graphics cards which meet or exceed the capabilities of AGA.

Named in honor of Spanish painter and sculptor Pablo Picasso, the Picasso II offers a bevy of impressive features including resolutions up to 1280 x 1024 in 256 colors and 800 x 600 in 16.7 million colors. Based on a 32-bit Cirrus-Logic processor used in many IBM/PC-compatible SVGA boards, the Picasso II is a full-length Zorro II card which may be inserted into an expansion slot in any A2000, A3000, or A4000

series Amiga. The standard card is equipped with 1MB of memory, with provisions for on-board expansion up to 2MB. In addition to the card itself, the Picasso II is bundled with a number of applications, including the custom Workbench emulation system, utilities for viewing a variety of image formats, a screen blanker, and *TVPaint Jr.*, a downscaled version of Tecsoft's renowned 24-bit paint package.

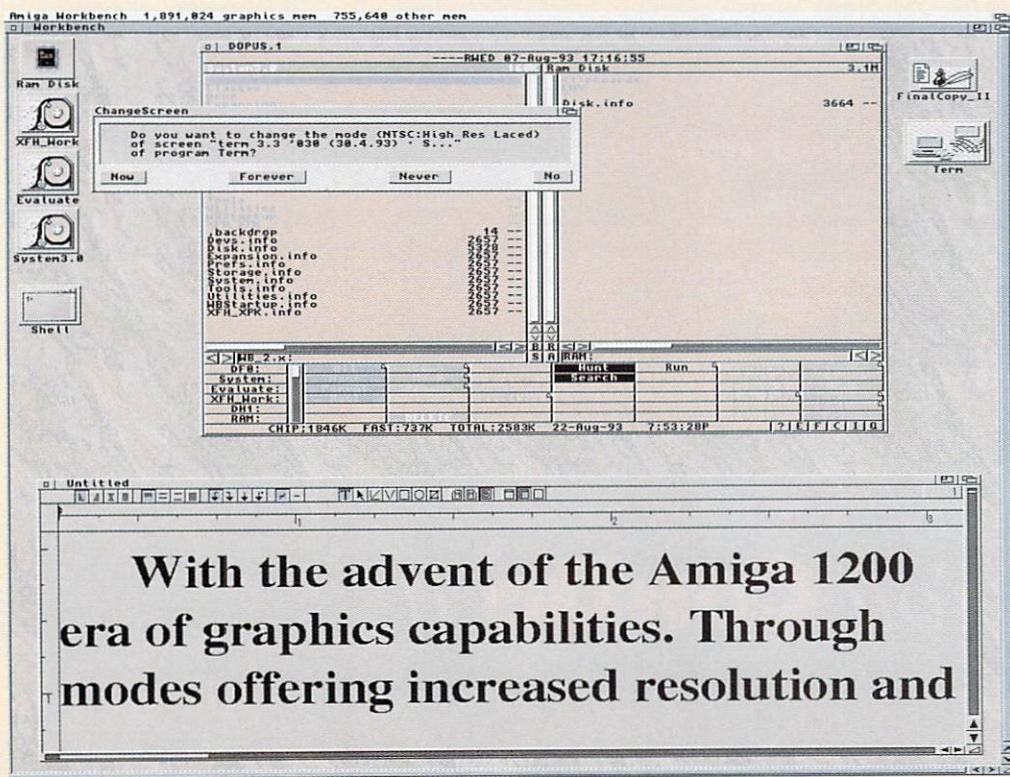
Installation and Setup

Installing the Picasso II is a simple procedure which is well-documented in the product manual. Once the computer casing and rear cover plate are removed, the board is snugly inserted into any vacant expansion slot, and an included 15-pin cable is connected between the standard Amiga output and the Picasso II electronic

monitor switch. A VGA or multiscanning monitor is then connected to the Picasso output. This configuration proves to be especially important to the use of the Picasso, as it ultimately ensures that a single monitor will accommodate both the Amiga and Picasso screen modes. Predecessors of the Picasso often became quite cumbersome to use because an additional monitor was needed to allow the two systems to work at the same time. With the monitor switch, both the native Amiga and Picasso display modes may be seamlessly viewed on one monitor.

Left: A typical Picasso II Workbench screen.

Right: Emulating AGA with a 256-color Picasso II display.



Following the installation of the card, the system support software and all utilities are copied to hard disk via Commodore's standard installer program. This process is straightforward and provides the user with the opportunity to select applications as desired. Once the software installation has completed, you are then asked to select a horizontal frequency which corresponds to the upper range of your monitor. Be sure to consult with your dealer or the monitor's hardware guide to confirm that your selection is appropriate for your display.

The ABC's of RTG

Despite the fact that many hardware developers attempt to entice users with technospeak about processor performance and benchmark comparisons, by far the most important element of any graphics card is its integration and ease of use. While a number of display cards have traditionally been available for the Amiga, their application has largely been restricted to specialized applications such as rendering or image processing. For many however, the prospect of investing in a display

adaptor which is limited to a small number of software applications is simply impractical. A graphics card moreover, should be as adept at supporting 24-bit paint packages as it is at enhancing the operation of desktop publishing software, spreadsheets, or the Workbench desktop itself.

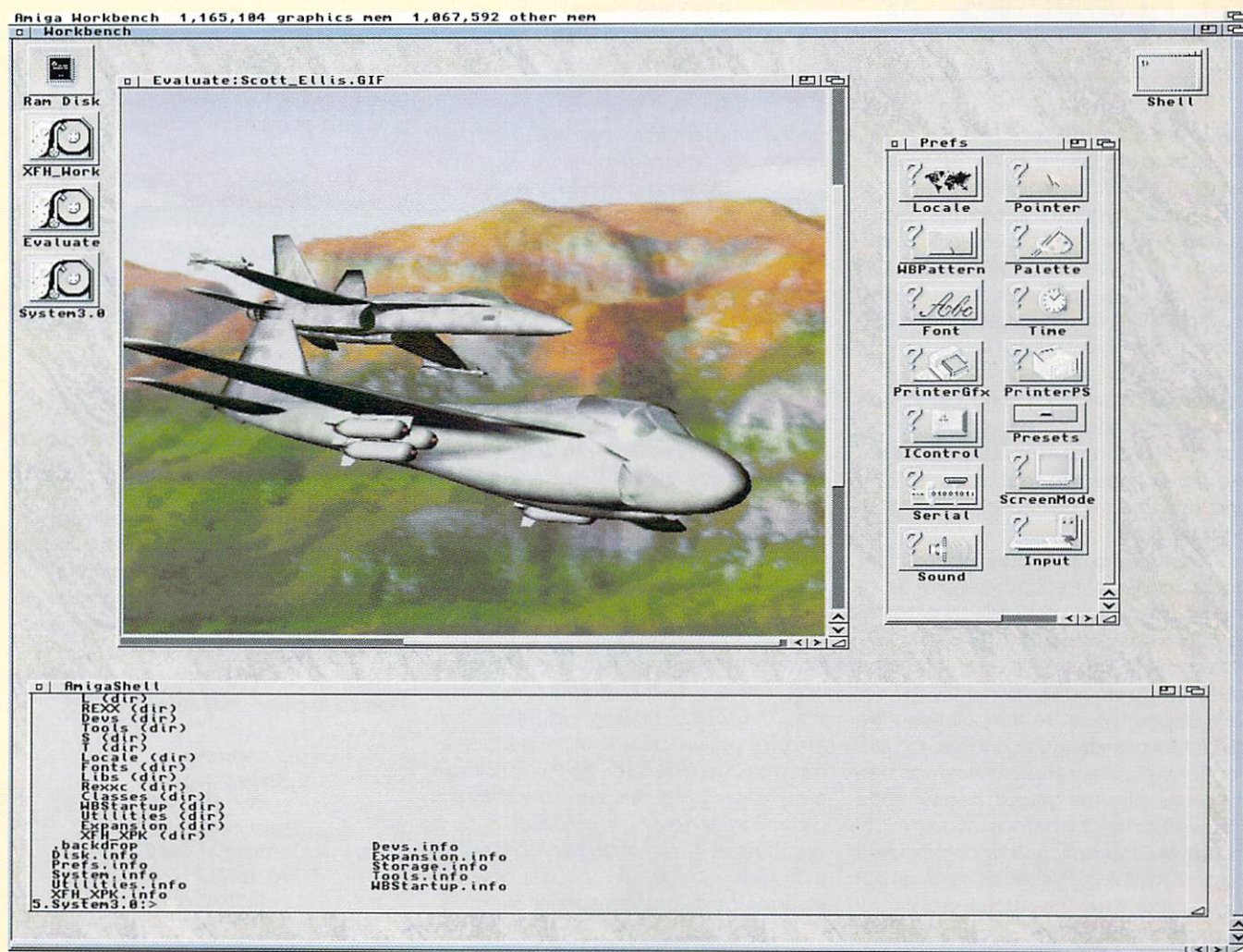
To a large extent, the problem of adopting alternative graphics processors to the Amiga is based more on software. Because the Amiga's native chipset has always offered a great deal of versatility and speed, the demand for increased resolution and color capabilities has been more confined to those users running applications such as CAD or X-Windows servers for Unix. Further contributing to this problem is the fact that the current operating system is tightly-coupled with the custom Amiga hardware.

If you have attended one of Commodore's recent engineering sessions or have frequented any of the networks, you've likely encountered the acronym 'RTG'. Simply stated, RTG (for retargetable graphics) is a system which Commodore is developing for a future revision of the op-

erating system. With RTG, you will be able to add virtually any graphics hardware to your Amiga and use it either in addition to, or as an alternative to the native chipset. Provided that you have the appropriate support software, you will then be able to choose a graphics card according to your needs. In the meantime, as Amiga software becomes increasingly sophisticated, a number of users are turning to third-party developers for interim solutions which provide much of the same functionality as RTG. I am pleased to report that the RTG system for the Picasso is both elegant and virtually transparent to the user.

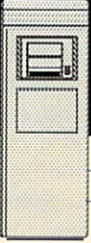
Taking the Picasso for a Test Drive

Once the card and necessary support software have been installed, configuring the Picasso display is a completely intuitive process. Simply open your system partition, activate the standard screenmode preferences utility, and you are now greeted with a number of additional Picasso display modes. You may then choose any one of these resolutions for your default Workbench setup, ranging



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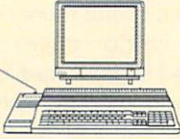


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anywhere from the standard 640 x 480 display to a staggering 1280 x 1024. Better still, if you are equipped with release 3.0 of the operating system or greater, the Picasso is capable of supporting a 256-color Workbench, effectively providing you with AGA emulation. If you are accustomed to using the traditional Amiga display, the difference is quite astonishing. Suddenly your system takes on the color and resolution capabilities more commonly associated with workstations. Fonts and graphics become crisp and vibrant, page previews are transformed into legible documents and new meaning is given to the term photorealism.

Configuring individual applications according to preference merely involves a mouse click. Simply activate your program as you normally would and the Picasso RTG system pops up a requester and asks whether you would like to modify the default display mode. At this point you are given four possibilities: to change the setting for the current session (Now), to permanently alter the default display mode (Forever), to use the default mode (No), or to prevent the option from being posed again in the future (Never). Should you opt for example, to set the default resolution of Pagestream to 1280 x 1024, every time you

run the program from then on it will open up according to the dimensions you have specified. Should you wish to change any of these settings at any point in time, a commodity is provided which gives you the opportunity to modify any of your own defaults. This system is especially useful in instances in which a wide range of applications or display modes is the norm.

While testing the card I took the opportunity to run virtually every commercial or public domain application that I could get my hands on. Of those applications which operate on the Workbench desktop, the vast majority ran exactly as you would expect. This includes popular mainstays like *Pro Page*, *Final Copy II*, *Typesmith* and *Pro Calc*—all of which benefit tremendously from the increased resolution and color of the Picasso. Not surprisingly, notable executions included all games which take over the machine, and any software which directly addresses the Amiga's native chipset. With the built-in monitor switch however, the Picasso simply allows these programs to run by acting as a pass-through for Amiga video.

Despite these impressive attributes, many will undoubtedly wonder how the Picasso stacks up in terms of performance.

Fortunately, with this card one can dispel the customary rule that resolution and color is gained at the expense of speed. In testing the Picasso in a number of Amiga configurations ranging from a base A3000 to 68040-equipped A2000 and A4000 series systems, I found the card to be both snappy and much more responsive than its ECS and AGA counterparts. Due in large part to the Picasso's on-board blitter, text scrolling and screen redrawing rates are especially impressive. While the system processor greatly affects the speed of the card, I was pleased to discover that even the highest resolutions were quite useful on a 68030-based machine. This will no doubt be welcome news for those people that use their Amiga for things such as personal productivity.

Comparison to other Cards

While a number of third-party graphics cards are slated for release as of this writing, the most prominent and comparable product is undoubtedly the Retina. While evaluating the Picasso, I put the two boards side-by-side in order to compare both features and performance. Based on my own impressions, I found the Picasso to offer three distinct advantages: a more comprehensive and user-friendly Workbench emulation system, an electronic monitor switch to ensure compatibility, and greater processor power for real-world applications. As always however, be sure to take the opportunity to give any card a hands-on evaluation to see which is the most appropriate for your needs. Each card offers certain attributes which will appeal to different users according to their individual preferences and current hardware configuration.

The Bottom Line

The Picasso II is an exceptional value which I have found to be supported by a company which is both enthusiastic and attuned to the needs of its customers. The hardware, emulation system, and accessories are all first rate and the bundled TVPaint Jr. 24-bit paint software must be seen to be truly appreciated. Every once in a while a product appears which fundamentally changes the way you both perceive and use the Amiga. I consider the Picasso to be one of them.

**Picasso II
Expert Services
7559 Mall Rd.
Florence, KY 40142
(606) 37-9690
FAX (606) 282-5942
Inquiry #232**

By Douglas J. Nakakihara

If you are looking for the ultimate directory utility, look no further than *MegaD* by John Jones. What sets *MegaD* apart from just about every other DUs is its interface. While most DUs handcuff you to only two visible directory windows, *MegaD* lets you open multiple floating windows, limited only by your computer's memory. These windows can be moved, resized, and flipped front and back—just as in Workbench windows. If you're comfortable with Workbench, you should be comfortable with *MegaD*, since—on a very basic level—they are functionally similar. In fact, you can even open *MegaD* right on top of your Workbench.

Multiple-Window Power

MegaD allows you to do things no other DU can do, such as copy files to and from multiple directories. This also minimizes the need to reload directories, since they can stay right on the screen. Even if a window is closed, MegaD will remember its

contents, so it will not have to reread the directory from the disk.

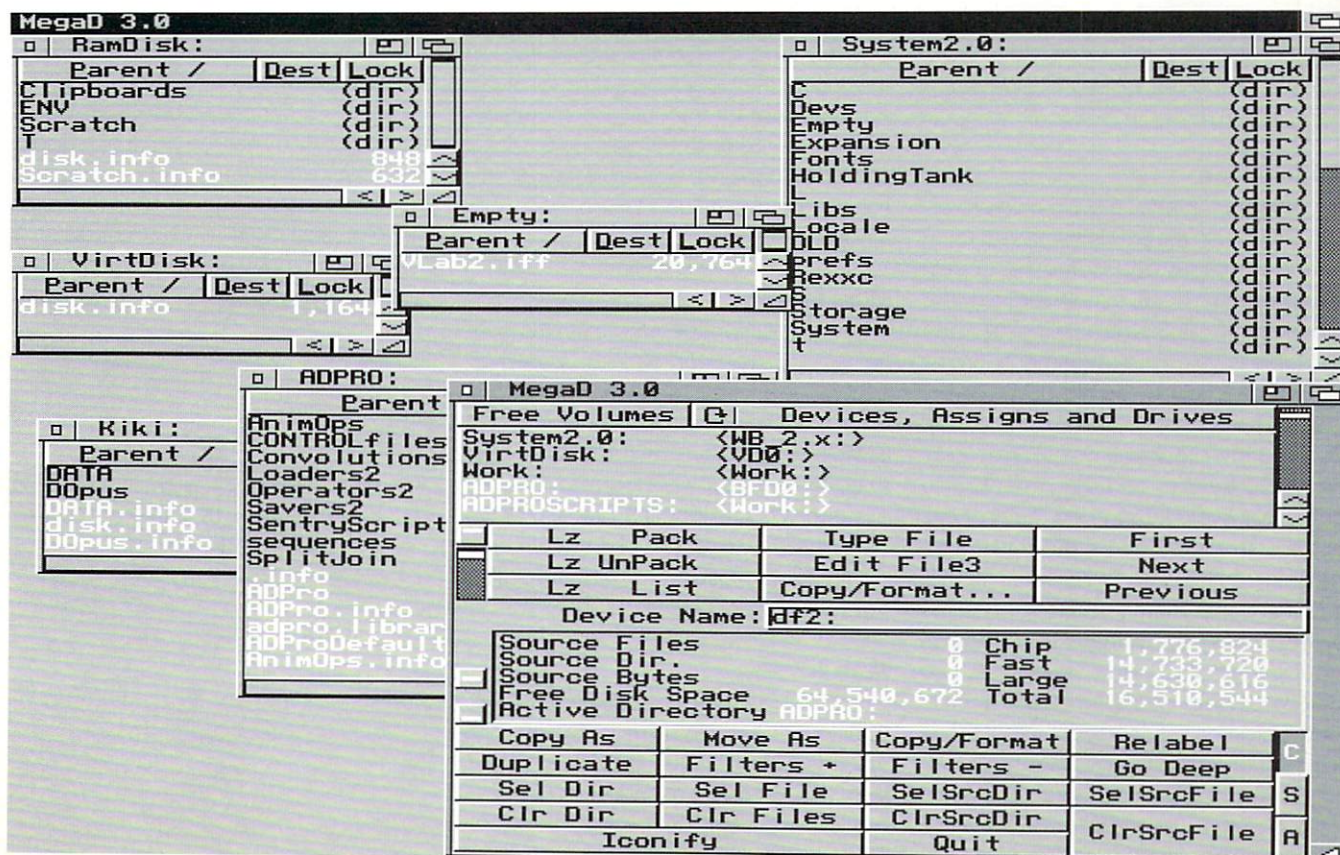
MegaD uses the standard AmigaDOS screen mode options, including virtual screens, where you scroll around a screen larger than your monitor's displayable area. Because of this, MegaD works fantastically with MacroSystemUS's Retina board. I use a 800 x 600 Retina screen myself.

To keep window-clutter to a minimum, you can optionally make MegaD display only one window per volume. So as you select a subdirectory and open a window for it, the window for its parent will close automatically. You can manually keep any window open by clicking on its lock gadget. Windows can be minimized by clicking on the minimize gadget located on the window frame. The total number of allowable open windows can also be set. When

that number is exceeded, MegaD will close an existing window.

Autoboosts

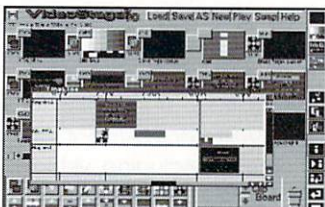
MegaD can be trained to allow you to double-click on literally any data file and have it automatically run the program that uses it! For example, double-click on a graphic file and it will be displayed using your favorite graphics viewer or double-click on a *ProfessionalPage* file and have it automatically load into ProPage. Teaching MegaD to recognize the data files is as simple as highlighting the executable program and a few example data files. MegaD searches through the data files and finds distinguishing file header information. How the executable program is run can be totally configured, including the ability to include CLI switches, what screen it should



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run on, and so on. If you train more than one program for the same data type, MegaD will prompt you and allow you to select which program to use.

The Interface

The main interface has a nice professional 3-D look. MegaD is controlled using pull-down menus and a floating control window, which has five main sections. The top section contains a list of either all of the available devices and assignments, or a list of previously displayed windows. Below that is a bank of buttons that can be used to run utility programs or provide quick access to devices and assignments. You can easily cycle through each set of five buttons. Three sets come pre-defined for archiving duties using Lharc, Arc, and Lha. You can define more sets and change the existing ones. Under these buttons is an input gadget that allows you to type in a device or path name for direct access. Next is an informational section that shows memory and disk storage utilization.

The bottom section consists of another bank of buttons, arranged like the numeric keypad on the right side of your keyboard.

The active bank can be changed by pressing the left Shift, Control, or Alt key, or clicking on their related gadget. All of the banks except for the "alt" bank are pre-defined for the essential file maintenance chores like copying, moving, deleting, etc. The alt-bank is provided for user-definable functions.

More Buttons

In addition to the gadgets in the control window, you can also set up pop-up gadget sets. They function just like any other user-defined gadget, but the layout is totally flexible. You can have two rows of six buttons, three rows of four, etc. Gadget size and window location are also definable. These gadget sets can remain constantly visible or you can call them up using hot keys or other gadgets.

Time Savers

MegaD has many time-saving features like the ability to handle .info files together with the main file. For example, selecting Helm from a window would automatically highlight the *Helm.info* file. When a floppy disk is inserted, you have the op-

tion of automatically bringing up its directory. Likewise, the window can be made to close when the disk is removed. When iconified, the icon is an Applcon. Simply drag and drop a disk or drawer icon on it and it will be automatically loaded when the MegaD screen appears. MegaD's file comment feature provides the option of adding the same comment to all highlighted files and subdirectories.

Extensive search capabilities are built in. So you can look for files on selected volumes based on a multitude of criteria. There is also support for pattern matching to control which files will be displayed in windows. ARexx is fully supported in this version, with over 120 different commands.

A nice little disk copy/format utility is included as well as support for a print spooler program. MegaD will even print disk labels. In fact, MegaD started out as a disk label printing program! MegaD is definitely the most fully-featured disk labeler available anywhere.

This is only a taste of all of the features of MegaD. A proof of this point is the documentation provided in the form of 800K worth of text using Commodore's hypertext program *AmigaGuide*. Additionally, there is a 400K tutorial text file!

Once you get used to using multiple windows, you won't be able to go back to a two-window DU again. To transition those users with two-windows "engrained on their brain," a two-window mode is provided, but this totally misses the point of MegaD. MegaD is available for \$30 directly from the author, John L. Jones, P.O. Box 292, Midvale, Utah 84047. A demo version is available on many BBSs, so you can try it before you buy.

MegaD
John Jones
P.O. Box 292
Midvale, UT 84047
Inquiry #233

AirLink 2.5

by Merrill Callaway

The AirLink (AL) 2.5 Amiga IR Controller hardware and software was invented by Mark Adams of Geodesic Designs Inc., P.O. Box 956068, Duluth, GA 30136, (404) 822-0566, FAX/BBS: (404) 339-9995. AirLink (\$50) consists of a manual, one disk with software, a three foot cable to plug into the second mouse port, and a 2 inch x 1 inch x 0.5 inch plastic IR box that plugs into the end of the cable. The other end of the IR box has an IR LED for output.

Computer Controlled Video

The AirLink 2.5 is designed to control any equipment that operates via Infra-Red (IR) remote control. AirLink also can control events through the Serial or the Parallel ports of your Amiga, the mouse, and MIDI. AirLink has a full set of ARexx commands. There truly is a wealth of possibilities. We only have space to look at the way AirLink controls your VCR through its IR remote. It does this through what is called an "air window."

Air Windows

An air window is a project file using the "Air" program as the default tool. An air window starts off as an IFF brush, just as you would paint it in *DPaint IV* or any other paint program. You make a painted facsimile of your remote controller and save it as an IFF brush. You then run the Air program which opens a window on the Workbench. Through its menu tools, the Air program in AirLink allows you to load your IFF brush, and proceed to add "gadgets" to it and "name" these gadgets. These "named" "gadgets" or active areas of the brush, when clicked on with the mouse, will activate the AirLink IR box to send out an IR signal. When you save the air window project, AirLink adds an extra "chunk" called the "IFF IRED chunk" to the IFF brush file. This extra chunk turns your brush into a con-

troller. There is a full set of edit tools to allow you to edit your new air window or modify one of the included examples of air controllers. How do we get AirLink to send the correct IR burst?

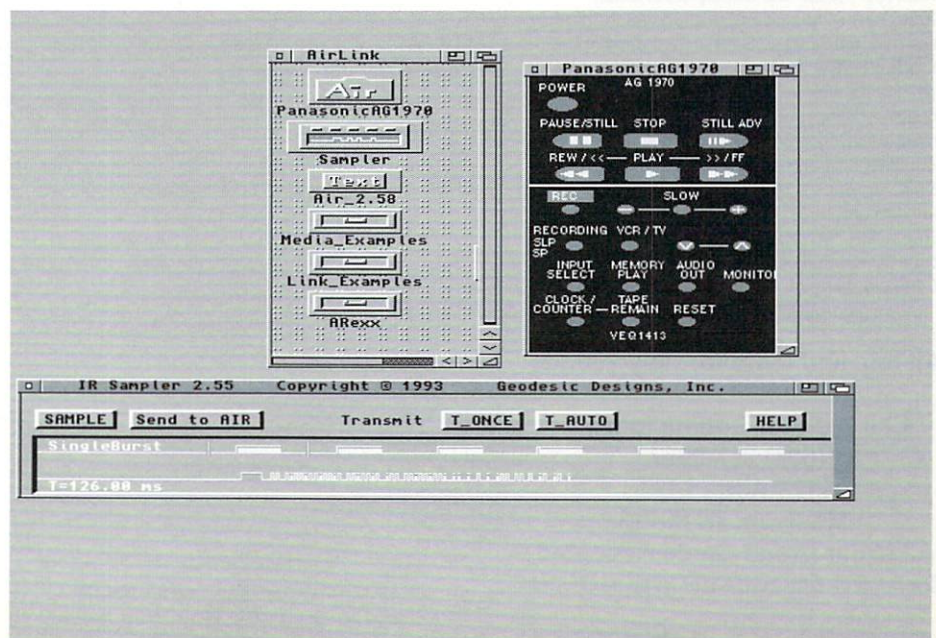
Training the Air Window

In order to mimic your hand-held controller, you must first "train" each gadget in the air window to send an appropriate IR signal burst (or bursts). For this purpose, there is a Sampler program that turns the IR box at the end of the cable into a receiver of IR signals. Basically, you let the software know that you want to sample rather than send an IR signal, and then click-and-hold one of the buttons on your hand-held IR controller while it is pointed at the IR LED on the box at the end of the AirLink cable. The Sampler window displays the exact IR waveform from your controller. Single and multiple burst IR control is supported. You may then test transmit the sampled signal to the actual equipment such as a VCR to see if it works. If not, you may adjust the Timing Calibration by means of menu tools until it does. Then, you attach this IR signal sample to its corresponding gadget in the Air Window by selecting the gadget and sending it the sample it is to record. Little windows open to tell you "ready to receive

sample" and that the "sample was recorded" properly to your air window gadget. There is an AutoSample mode that allows you to save time by sending the hand controller button clicks directly to the gadgets on the air window.

I installed the hardware and software, painted a controller, and trained its air window for a Panasonic AG-1970 VCR in one enjoyable evening. I found that I did not have to tweak any of the IR samples' "TC timing," but there are detailed instructions for finding the optimum average TC timing if necessary. Once you attach the sample to your air window gadget, AirLink lets you select whether to continuously send or to send only the one burst. Click on the hold box in the gadget name requester if this is the case. I needed to select hold in the "slow" jog-shuttle controls of my air window. I succeeded in getting every one of the air window controls to act exactly like the hand-held controller. The only difference I detected was that the IR beam from the AirLink is more focused than the beam from my hand-held unit. The AL unit needs to be pointed a little more directly at the VCR. I attached a small plastic cable clip to my desk to insure the AL IR device is pointed at the VCR across the room and it always works fine.

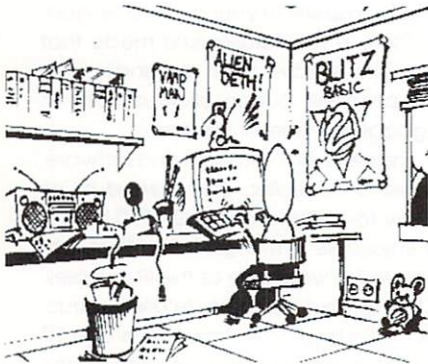
The AirLink window (top left) with an Air Window (top right) for a Panasonic AG-1970 VCR, and the Sampler window (bottom) showing the IR burst for the "power" button after sampling.





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The Links in AirLink

The air window is just the start of the possibilities in AirLink. Once you have an air window up and running, you may attach "links" to it. A link is a command that always connects an INPUT event with an OUTPUT event. When the link input event occurs, the linked output event is triggered by the Air program. There are 11 Input Events and 12 Output events. Input Events: KEY, MENU, GAD, GADUP, NOW, TIMER, AREXX_IN, SERIAL_IN, MIDI_IN, PAR_IN, and PHONE. Output Events: KEY, MENU, MESSAGE, MOUSE, EXEC, CONTROL, AREXX_OUT, SERIAL_OUT, MIDI_OUT, PAR_OUT, IR, and WINDOW. Link list format is simple:

Link input<arg1 arg2 etc.> output<arg1 arg2 etc.>

Inputs and outputs may have several arguments, such as key qualifiers in the KEY<> Link.

Attaching Links

If you save your air window, all link commands in the internal Link List are saved as part of the air window in the IFF IRED Chunk. This Link List stays attached to the air window until you delete the list. You may attach links to your air window by adding one or more tool types in the above format to the project icon which opens your air window—the icon which uses Air as the default tool. If you open the air window icon with the additional tool types making up a link list, the link list is attached to the air window. You may verify this by using the "read list" menu item. If you subsequently Save the air window, the tool types disappear but the link list stays attached. You may delete lists using a menu item. You may append lists from text files with the menu. You may also attach lists using AREXX. The Write List menu item actually generates a nifty little AREXX program, and saves it as a text file (which is what all AREXX programs are). If you launch this file as an AREXX program with an air window open, then the list is attached to the air window.

There isn't space to describe all the ins and outs of links, but let's look at one simple example. My Panasonic AG1970 VCR air window has a gadget named "power" which turns on and off the power in the VCR. I wanted to make a link to turn on the power if I opened the air window controller. I simply added this line to the tool types in the air window icon:

link now<> ir<power>

Next time I opened the air window, the power was turned on because the now<> input says to do it now. Note that now<> does not have arguments but IR<> does—

the name of the gadget to activate. The output event linked to now<> sends the infra-red IR signal from the gadget named "power." Because you are allowed to put output links in your list, all linked to the same input, and because you may implicitly reference or chain together input events using the menu<> and the control<> commands, you may program complex timed-control sequences into your computer. Using AREXX, you can add complex logic, too. If you have a method of connecting video information to the parallel or the serial ports from your video equipment, then you may use AL to perform two-way control (if you are willing to experiment—the manual information is sparse). IR control works one-way. Using the outputs Mouse<> and Window<>, you can control Amiga programs such as *Amiga Vision* directly through their graphic user interface. AirLink even provides a way to "record" your mouse position and clicks for this. AirLink claims full compatibility with *Bars&Pipes* (Blue Ribbon Soundworks), stating that they are a good way to integrate MIDI events into your multimedia productions.

Conclusions

Applications for AirLink have not all been thought out yet. It's a good, inexpensive R&D tool, but AirLink has a lot of right-now use, particularly for multimedia video applications where you only need one-way control. For instance, AirLink, AmigaVision, and a touch screen would be the basis for a Kiosk to play videos from a laser disk or tape. Almost everyone should be able to paint and then train an air window, but AirLink invites and even requires creativity and willingness to experiment before you can do anything beyond the complexity of a basic air window. The 72-page, indexed manual is adequate for setting up an air window. For understanding link programming, it's only so-so. The disk examples are not explained at all. The AREXX commands are only listed, but several disk examples are provided. A working knowledge of AREXX is assumed. If you need a fully programmable, adjustable, and reliable IR control issuing from your Amiga for professional multimedia applications, or just want to experiment with a cool video control R&D tool, AirLink represents good value for the money. It works very well.

AirLink 2.5
Geodesic Designs, Inc.
P.O. Box 956068
Duluth, GA 30136
(404) 822-0566
FAX (404) 339-9995
Inquiry #234

ColorBurst Hand Scanner

The ColorBurst hand scanner from Migraph brings affordable, quality color scanning to the Amiga desktop. The easy-to-use interface and comprehensive scanning guide make the ColorBurst simple to master. The scanners are shipped with a scanner interface, power supply, and Colorkit software. Migraph has also made OCR Jr. available as an option for the ColorBurst package.

ColorBurst features quick, single-pass scanning. Normally with hand scanners, if the scanning head is moved too quickly over the image, there will be considerable data loss. In the case of the ColorBurst, it is possible to scan fairly quickly without fear of great data loss. The scanner also features a 4.13"-wide scanning window; five scanning modes—18-bit, 12-bit, grayscale, dithered halftone, and line art; adjustable resolution from 50 to 400dpi; and the ability to scan and save up to 262,144 colors.

The accompanying ColorKit software adds to the scanner's ease-of-use. The Colorkit software does not allow for image editing or manipulation; however, it will quickly save a scanned image to a variety of formats that can then be taken into other programs for editing. This does not detract at all from the scanner or software. ColorKit is designed to help the user get the best possible scans. The simple interface features five buttons: Scan Settings, Scan, View, Save, and Image Information. To scan an image, simply click on the scanning gadget. A requester will appear indicating that the scanner lamp is warming up. Once the lamp has warmed, everything is ready for scanning. Once the scan is complete, click on the view gadget to see the scan. Here, it is possible to set the display resolution and size of the image. To save the image, click on the save gadget. The save requester will appear offering several

saving options. It is possible to choose the size, display resolution, colors, and format. Options include 24-bit IFF, HAM8, HAM6, 256-color and 64-color, as well as greyscale options.

On the scanner head itself, there are controls for resolution, brightness and contrast, dither pattern, and scan mode. The pattern switch is used only in conjunction with the Dithered Color and Text scanning modes.

MIGRAPH

ColorBurst™



Color Hand Scanner
with Colorkit Software

2

FREE
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Question about a review?

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Scanning with the unit is easy. Migraph provides a straight-edge guide to assist in keeping your documents straight. There is no need to hold the scan button down, one click and it is ready to go. The only downside to the scanner itself is that the unit does not alert you if you are scanning too fast. Most hand-held units have a light which flashes if the scanner head is moved too quickly over the image. This is minor, however. Keep in mind that scanning speed is directly affected by the speed of the Amiga and the available memory. The slower the Amiga, the slower you will need to move the scanner.

The quality of the scans is very good. Color reproduction is excellent. Migraph recommends using Greyscale mode for any desktop publishing work that will not be printed in color. This scanner is perfectly suited for desktop publishers and desktop video users. It brings fast, affordable, quality color scanning to the desktop and makes scanning images for video a snap.

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VLab

By Douglas J. Nakakihara

GRAPHICS GENERATED USING 3-D rendering programs can be very impressive, but there is something about images grabbed from live video. For me, I suppose it's the feeling that I am somehow manipulating reality on my computer that really gets me excited. Now framegrabbers have existed for years, but there was no way to grab 24-bit images at 30 frames per second (fps)—the standard frame rate for NTSC video. Depending on file format, a single frame is from one-half to 1MB in size. Not even the mighty Amiga can transfer data to a hard disk fast enough to keep up with 30fps capturing.

Interleaved Frame Recording

With VLab from MacroSystemUS, the power of 30fps capturing is finally available. No credit card-sized screen grabs here, I'm talking full-frame full-resolution 24-bit capturing! VLab accomplishes this with their innovative Interleaved Frame Recording (IFR) system. By making multiple passes at the video source, VLab can compile an effective 30fps. Since you must be able to make multiple passes of the video, IFR can only be used with sources like VCRs, camcorders, laserdiscs, etc.

For example, let's say your Amiga is only capable of capturing two frames per second. IFR would then grab frames 1, 16, 31, ... The next time through, it will grab frames 2, 17, 32, ... As you can see, after 15 passes, VLab will have captured all 30 frames from each second.

VLab's ability to do IFR centers around something called a Keyframe. VLab can apparently measure and remember sudden changes in a video signal. When this change occurs, VLab can use it as a point of reference for grabbing frames. I have observed that Keyframes usually occur when there is a quick cut to a different scene or to a close up of an actor's face, etc.

IFR works something like this. After you have identified the scene you want to grab, you rewind the tape past the beginning of the scene and put the VCR in play mode. Then you click the Find Keyframe button. VLab waits for a suitable Keyframe

and let's you know when one is found. Now when the chosen scene comes up, you click the Start Scene button. VLab measures the time between the Keyframe and the start of the scene. If a Keyframe isn't found prior to the start of your scene, you must start again a little farther back in the tape.

The next step is to start the IFR process by clicking the Start button. Now you just rewind the tape past the keyframe and start playing it again. VLab will wait for the Keyframe and then the appropriate amount of time until the scene starts, at which point it starts grabbing frames.

You can reduce the overall IFR time by making sure the Keyframe is as close to the beginning of your scene as possible. This decreases the time your VCR is rewinding and playing. After a while you will be able to visually tell where VLab will likely pick a Keyframe. Also, to reduce disk storage requirements and speed up grabbing, you can lower the resolution and capture in black and white mode.

Missing Link

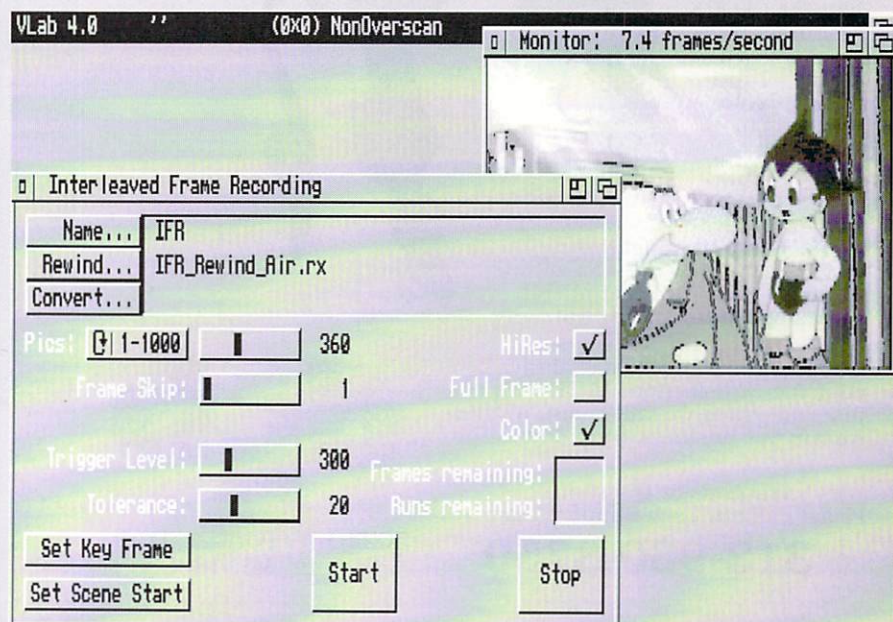
IFR can be tedious, so fortunately there is a way to automate the process

using AirLink from Geodesic Designs (\$50). AirLink, which connects to your joystick port, allows you to control any infrared (IR) device directly from your Amiga. Teaching AirLink to generate my VCR remote's IR signals was a snap. VLab even has example ARexx scripts that will cause AirLink to send out rewind and play IR signals after each IFR pass. These scripts are very basic and only contain a few lines of code. AirLink performed flawlessly in my tests and is nearly essential when doing IFR. An upcoming version of the software will allow the AirLink window to open right on the VLab screen. This will allow you to control your VCR and IFR without having to flip between the VLab and Workbench screens.

Other Features

VLab can also scan a sequence of frames, up to six per second, or just grab a single frame. The incoming video source can be monitored in greyscale in a movable window. Video played fairly smoothly in this window on my A3000. You can't see much detail, so depending on your needs you might want to use a signal splitter and watch the video source on a separate

VLab can also scan a sequence of frames, up to six per second, or just grab a single frame.



monitor. If you have a Retina display card, also from MacroSystemUS, you can monitor the input on a 256,000-color screen. The updates are slower than the movable windows, but you get a better idea of what is going to be grabbed. Real-time color, contrast, luminance, and gamma controls as well as luminance, chrominance, and noise filters are also featured. ARexx is of

course supported.

VLab (\$499.95) fits into any Zorro II/III slot and does not require the video slot. The Y/C version (\$599.95) includes two RCA video inputs plus a Y/C connector for Hi-8 and SVHS video sources. Inputs are software selectable. An external version is available for the A500, A600, and A1200 (\$549.95).

Storage

Of course, at 30fps, storage requirements are great. You can always convert the files into something small like DCTV using ADPro, but the originally grabbed frames will have to be initially stored somewhere. IFR saves all files in a YUV format. Individual frames can be saved directly to any IFF file format including IFF24 and AGA. Storage requirements can be lessened by reducing resolution or the number of frames grabbed per second, or you can grab in black and white.

Performance

IFR was unbelievably easy and the results were great. I created a few 3-bitplane 640 x 200 DCTV ANIMs and it was nearly like watching TV, though my A3000 would only play about 20fps. I found it amazing that I was able to get this kind of quality using a \$200 VCR as the video source! The only real glitch that occurred during IFR seemed to be caused by my screen blanker. I apparently went off and caused VLab to grab the wrong frames. So be sure to disable any utilities like these.

I think we are going to see some exciting things from people using IFR. Imagine wrapping moving video onto your objects in a 3-D rendering program. Now you can get the source images necessary to do moving morphs. Include video segments in your computer-based presentations. With the Retina card, you can compile ANIMs from VLab YUV files and even include sound. Team VLab up with Interactive Video Systems' MovieMaker along with DCTV, and you've got the power to do MTV-style videos! This may be the dawning of a new era in desktop video.

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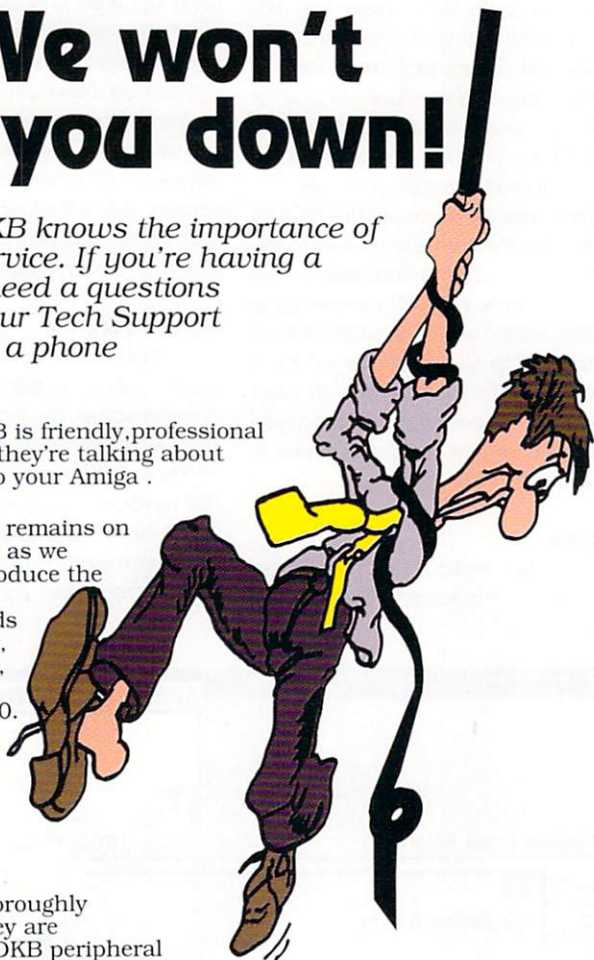
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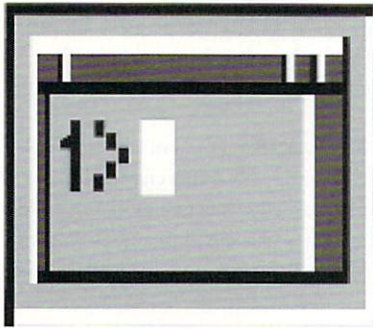
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(313) 263-0095
Inquiry #235



cli^{by} Keith Cameron directory

Writing Script Files, Part 3

Last month, we looked at how `ASK`, `IF`, `ECHO`, `ELSE`, and `ENDIF` are used in writing script files. I used these AmigaDOS commands to produce a simple script file called `DirCheck`. This month, we will continue our examination of script files by looking at other commands used in producing scripts. These commands are `LAB`, `SKIP`, `ENDSKIP`, and `QUIT`.

For the sake of convenience, let's use basically the same script file as last month. This time, however, I will get the same effect by using the four new commands named above. Here is the script.

```
echo ""
echo "Welcome to DirCheck, a utility for providing"
echo "a directory listing of specified drives."
echo ""
ask "Would you like to have a directory listing of drive df0:?"
if warn
    skip positive0
else
    skip negative0

lab positive0
    echo Very good. Here is your listing for drive df0:.
    dir df0:
    skip next

lab negative0
    echo Very good. No listing for drive df0:.

lab next
echo ""

ask "Would you like a listing for drive df1:?"
if warn
    skip positive1
else
    skip negative1

lab positive1
    echo Very good. Here is your listing for drive df1:.  dir df1:  skip
next1

lab negative1
    echo Very good. No listing for drive df1:.

lab next1

echo ""
echo Thank you for using DirCheck.
```

The first thing you will probably notice is that this script file is longer than the one from last month's column. There is a time when it is more advantageous to use certain commands. Obviously, the commands used above are not best suited for this script. However, my purpose is simply to demonstrate how these commands work in a script file. You will notice that I have retained `ASK`, `IF`, `ECHO`, and `ELSE` from last month's column. Let's then concentrate on the new commands, beginning with `SKIP`. Here is how this command is used the first time we see it in the script.

```
if warn
    skip positive0
else
    skip negative0
```

You will recall that `IF` and `ELSE` are used for conditions. If the `IF` condition is met, then the "skip positive0" line is executed. `SKIP` instructs the computer to move ahead in the script file to a line called "positive0." On the other hand, if the `IF` condition is not met, then execution moves forward to a line called "negative0."

These lines are identified in the script by the `LAB` command, which is short for "label." When a `SKIP` line is executed, the computer searches for the `LAB` command. It then checks to make sure the strings match. The string is the name actually given to a line, such as "positive0" and "negative0" above. Thus, when

```
SKIP POSITIVE0
```

is executed, the computer looks for a `LAB` command with a matching string, like this:

```
LAB POSITIVE0
```

When a matching string is found, execution of the file resumes.



In the second part of the script file, the part concerning drive df1:, notice that new labels are given: "positive1" and "positive2." SKIP always looks forward through a file for a LAB statement, so the different names really aren't necessary. If you should want to search for a LAB statement from the beginning of a file, that is, prior to the SKIP statement, then you can use the BACK option, as illustrated here:

```
SKIP STRING BACK
```

Using SKIP and LAB requires some understanding. Look at part of the script reprinted below.

```
lab positive0
echo Very good. Here is your listing for drive df0:.
dir df0:
skip next

lab negative0
echo Very good. No listing for drive df0:.

lab next
```

Notice that at the end of the "lab positive0" section there is a line instructing the computer to skip to label "next." If this command were not present, the computer would continue executing the next line, which is the "lab negative0" line. Since the execution of this line would not be coherent with the execution of the "lab positive0" block, the "skip next" line directs execution around the "lab negative0" block. All of this was not necessary in last month's script. That is not to say that SKIP and LAB are not useful. I leave it to your discretion to decide when it is better to use one method than the other. Once again, my purpose here is to simply demonstrate how the commands work.

You could end each of the LAB blocks with an ENDSKIP statement, but it really isn't necessary in the example I have provided here. ENDSKIP simply completes the execution of a SKIP block and passes control to the next line.

Last month, I wrote briefly about condition flags and their return codes. You may recall that 0-4 indicate no error, 5-9 warn of an error, 10-19 show that an error has occurred, and that 20 or above indicate program failure. It is possible to increase the limit at which programs will fail to execute by using the FAILAT command. Let me demonstrate by doing an experiment. If you have reproduced the DirCheck program on your computer, you can try this as well.

Run the program as usual, but when you are asked if you want drive df0: listed, remove any disk you have from that drive. Of course, for the DIR command to be utilized, you will need to have your boot disk in drive df1:, or you will have to make your DIR command resident. When execution resumes, the program will attempt to read drive df0:, but since no disk is present, execution will cease and a requester will appear in the form of a window in the upper-left corner of the screen. After you select "cancel" from the requester, you will see the following written below the script text:

```
Could not get information for df0:no disk in drive
dir failed returncode 20
```

The program will then be terminated. The problem is that the return code of 20 indicates a program failure, so the program ceases to execute. By raising the fail limit, though, it is possible for the program to continue to execute whether there is a disk in drive df0: or not.

Here's how you do it. At the very beginning of the DirCheck script, type "failat 21" on a line by itself. Save this change and then execute the program again, doing exactly the same things you did in the paragraph above. The same requester will appear, but you will notice a slight change in the text that appears on your screen. This time, you will see this:

```
Could not get information for df0:
no disk in drive
```

This time, the third line is missing. Execution of the program continues, and you are then asked if you would like a listing of drive df1:.

Try to imagine how you could utilize such a command. For me, the best feature is that the program does not terminate. This could be especially useful in a lengthy program. Finally, to make script files accessible to people who may not be very computer literate, you may wish to make such files available from the Workbench via icons. First, decide where you plan to store your new program. If it is a program you will use often, you might want to place it in the root directory. After you have saved it to the proper place, you will then need to give it a project icon. The Shell icon, for example, is a project icon. If I wanted to do this with DirCheck, I would type the following on a Shell command line:

```
COPY SHELL.INFO TO DIRCHECK.INFO <RETURN>
```

This will create an icon for my DirCheck script file. Next, select your new program by clicking once on the icon. After you have done this, select the "Information" item under the "Icons" menu in the menu bar of Workbench. Locate the Default Tool requester, and replace whatever is there with "C:ICONX". Save the changes and return to Workbench. You may then double click on the icon and the program will run. That's all there is to it. Now anyone can run your program no matter how little they may know about command lines.

As with last month's article, I'll close by making a request for script files. If you have one that you use often, please send it to me c/o the address at the end of this article. Those that seem worthwhile I'll try to include in future articles.

•AC•

Please Write to:
Keith Cameron
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

bug bytes

by John Steiner

tips

hints

workarounds

suggestions

updates

fixes

Platinum 2.0 patch

Wayne Cole sent e-mail regarding Kevin Arvin's problem as it appeared in the "Bug Bytes," V 8.10. He sent along a file distributed by MSS via many public BBSs just after AmigaDOS 2.0 was released.

Users of AmigaDOS 2.0 will find that a Platinum series program window is larger than the screen on which it opens. This places the bottom and right edges of the window beyond visibility.

The Platinum series custom screen is checking for a WorkBench version greater than 1.3. If found, the program tries to open an A2024 screen. This patch nullifies that check and inhibits any attempt to open an A2024 screen.

First, make a new working copy of the master disk. Then, in an object editor program (such as *NewZap*, *Sectorama*, *DiskWick*, or *Disk Mechanic's WorkShop*) look for this sequence of eight HEX bytes on the working copy:

```
0C 40 00 22
63 00 00 84
^^
```

and replace it with:

```
0C 40 00 22
60 00 00 84
^^
```

(The fifth byte in the sequence

changes.)

Finally, save the change. *Do not alter your master disk! Modify a working copy!* The *Platinum_Works!* file should be altered, not the application modules.

I've been running Platinum Works! with this patch for over a year with no apparent problems.

BAD Disk Optimizer

Henning Vahlenkamp wrote again to comment on his bug report on *BAD 4.13*, in the "Bug Bytes," V 8.7. He notes that if you format your hard disk with the Fast File System, not the Custom Files System, from the AmigaDOS 3.0 *HDTToolBox* program, this may fix the problem. He notes that after doing this, BAD correctly recognizes his hard disk.

Item: DeluxePaint IV and the A4000

Jeannine Deubel of Berwyn, IL, writes with a question regarding her use of *DeluxePaint IV* version 4.1 for the new AGA mode.

I have an Amiga 4000 with an 040 and 10MB of RAM. I received *DeluxePaint IV* for the AGA from Commodore through a promotion they were offering, but have been having problems utilizing the new screen displays with the program.

Specifically, whenever I import any graphic other than the standard lo-res or standard HAM format, and then try to pick up a custom brush (size of the brush does not seem to matter), the program freezes, and I get a Guru message. I have contacted Electronic Arts, and they have sent me new disks, but I keep having the problem. The tech at Electronic Arts claims that he has tried to duplicate my problem at his end, but no such problem occurs on his 4000. He claims the problem must be with my 4000, but I have had a technician look at my machine, and he claims that there is nothing wrong with it!

As Ms. Deubel doesn't know any other A4000 owners, she wonders if others might be having the same or similar problem. She notes she has *ADPro 2.3* for AGA and *Professional Page 4.0*, both of which work fine in AGA modes on her machine, so she feels it's a software problem. She does comment that hers is an early A4000, purchased at the end of 1992, so she doesn't discount the fact that there could be some kind of hardware problem. Hers is the first letter from a reader that mentioned problems such as this, which points more toward a hardware problem in the A4000. If you have any comments, let me know.

Virus Detection Feature in M.A.S.T. Enhanced Unidrive

M.A.S.T. (Memory and Storage Technology) of Australia airmailed a letter in response to Bob Husband's inquiry mentioned "Bug Bytes," V 8.7. If you recall, Bob needed to know the correct switch positions for write protect and virus detection on the Enhanced Unidrive floppy disk drive.

The Enhanced Unidrive provides a continual monitoring system against virus damage. The left-hand decimal point will illuminate if the Amiga writes to Track 00. The right-hand decimal point will illuminate if the Amiga writes to any location on the disk. These indicators remain illuminated until the disk is removed from the drive. No matter how briefly a virus may write to a disk, you will always capture this information. Naturally, normal writes to the disk will also activate these indicators.

Switches S2 and S3 on the back of the drive provide the Enhanced Unidrive with an effective hardware write-protect mechanism. If switch S2 is turned OFF (switch handle to right when viewed from rear of drive), writes are enabled. If switch S2 is ON, writing to the disc is disabled. However switch S3 determines which part of the disc is write protected.

TO WRITE PROTECT TRACK 00 ONLY - turn switch S3 to the right

TO WRITE PROTECT ENTIRE DISC - turn switch S3 to the left

With switches S2 and S3 set correctly, discs in the protected drive cannot have their data altered, regardless of any messages to the contrary sent out by the Amiga.

Note: To change any switch settings, do so with no disk in the

drive. This way the Amiga will correctly register the write-protect status of the drive when a disk is re-inserted. If you change the protection features without ejecting the disk, your Amiga may get confused and report Read/Write errors should you write to the disk. Do not worry—you have not really corrupted the disk.

Multi-Start ROM Switcher and Automatic Startup-Sequence

Mike Vogelpohl of St. Louis, MO, writes with a challenge to those who consider themselves adept at writing sophisticated startup sequences. Mike has a Multi-Start ROM switcher card installed in his Amiga 2000 (with both 1.3 and 2.05 ROMs). He also has a single partition hard drive with DOS 2.1 installed. Additionally, he has a drawer containing DOS 1.3. He would like to have the system automatically detect whether he is booting from DOS 1.3 or 2.1, and execute the correct startup-sequence. He notes that he has seen several startup-sequence modifications on different bulletin boards that work with DOS 2.04, but they do not seem to work with DOS 2.1. If you know of a sequence that works on 2.1, or have created one, and wish to share it with "Bug Bytes" readers, pass the information along.

Workaround for excellence! Print Problem

Jon Peterson of San Angelo, TX, writes to comment on Jeff Powell's problems with *excellence!*, mentioned in "Bug Bytes." The printer would not print the entire page, and/or duplicate some lines, while leaving others out at the page breaks. He noted that the problem occurs when printing in draft or NLQ mode, using the internal printer fonts, rather than when printing in graphics mode. Mr. Peterson writes all of his documents in a font known as IBM 8, and he solved his erratic printing problem by setting the line spacing to 12. Some experimentation might be necessary to achieve proper results with the default font you choose to use regularly.

68000 CPU Speedup

Karl Rische writes to ask which 68000 CPU to use in the speedup modifications referred to in the last several "Bug Bytes." He notes that he cannot find a 16MHz 68000, and Motorola sales personnel have told him that the fastest processor in the 68000 format is 12MHz. He wonders where people doing the modifications are getting their CPUs.

Hard Drive Retrofits

Mr. Rische wonders if it's possible to use a couple of hard drives on his Amiga system. (Though he doesn't say specifically in the letter, I surmise that he has an A500 from comments made in his questions.) He has a removable cartridge drive manufactured by Ricoh, model #5260. He also has a Seagate ST-225 drive unit. He is asking for recommendations of controller and driver software that might fit these drives and make them usable on his Amiga system. Any comments from our readers?

1MB Upgrade and the A501

Mr. Rische asks about the 1MB upgrade everyone seems to be doing. He asks, what is a person to do once this has been done and he would like to still use the 512K and clock on the A501 belly board?

The 1MB upgrade isn't really an increase in total RAM available, but a conversion of the A501's RAM to Amiga graphics RAM. As originally configured, the A500 comes with 512K of graphics RAM, and any application must share that RAM with the graphics display. Adding the A501 board provides 512K of non-

graphics RAM. The 1MB modification makes this 512K into graphics RAM so that larger graphics and sound files can be available to the Amiga custom chip set. The 501 board and its clock are not disabled, and continue to function as before. RAM above 1MB is known as fast RAM because it's not sharable with the custom graphics chips, and therefore applications that are loaded into the memory area above the 1MB graphics area can execute more quickly. Loading of programs into this upper memory area can be accomplished by running a program called *FastMemFirst* from the Amiga's startup-sequence file.

There is one caveat about doing the conversion, however. As of this writing, Commodore Technical Support does not recognize the 1MB modification on the A500 as an authorized modification, and further, they will not accept for exchange any A500 motherboard that has had the modification made. What this means is that, should your motherboard fail, a replacement motherboard will have to be purchased outright. The usual allowance for the return of the defective motherboard will not be authorized. Though I don't know the exact amount of the allowance as of this writing, I know that the loss of that allowance makes the replacement of an A500 motherboard extremely cost-ineffective.

Fax Messages to Bug Bytes

Several people noted that they have tried to send me a fax via the number I publish each month, and received no answer, or have been otherwise been unable to complete the sending of a fax. This machine is located in a business, and the staff, in an effort to curtail the receipt of junk fax messages, recently began turning the machine off during non-business hours. In addition, due to a recent move in business locations, the fax line has been available only intermittently. By the time you read this, everything will be back up and running again; however, the times the fax line is available are 8:30 a.m. to 5:30 p.m. Central Time, Monday - Friday.

That's all for this month. If you have any workarounds or bugs to report, or if you know of any upgrades to commercial software, you may notify me by writing to:

John Steiner
c/o Amazing Computing
Box 2140
Fall River, MA 02722

...or leave e-mail to
John Steiner on Portal
73075,1735 on CompuServe
Internet mail can be sent to
John_Steiner@cup.portal.com
FAX John Steiner at (701)280-0764
(8:30 am. to 5:30 pm. Central Time, Monday-Friday)

•AC•

On the Right Path: Aladdin 4D Tutorial #5

by R. Shamms Mortier

In the past four *Amazing* Aladdin 4D tutorials, we have spent time on various sculpting and effects options. Now it's time to set our objects in motion, because animation is the Amiga's second name!

To animate anything in A4D, you must understand "Paths," how they are constructed, how to determine their properties, how to assign objects to them, and how to manipulate them. In general, any polygon in A4D may be transformed into a Path by the simply selecting it and choosing "Make Poly a Path" from the Paths menu on the Title Bar. The polygon selected to be a path turns red on the screen instead of the default black color of a polygon.

When you make a polygon a path, the Path Control requester appears on the screen. You can always return to this requester for a specific path by selecting the path and choosing the menu option "Alter a Path." Look at Figure 1 as we go through the various possible settings on this requester. The top part of it should be very familiar by now to those of you who have been following these tutorials along, or who have had even a modicum of experience with A4D. At the top are the same Timing controls that also appear in other A4D Control requesters. We'll pay more attention to these options a bit later. For now, take a look at the input box about a third of the way down on the right that reads "Angle Execution Order." If you want your objects that are assigned to this path to spin on all three axis at the same time, setting the priority of which axis is to be taken more seriously is accomplished by defining the axis in that order in this box. For instance, if I wanted to make sure that my spin setting for an object assigned to this path paid

more attention to Z-axis settings, and the least attention to X-axis settings, I would make the order in this box read "ZYX" instead of the default "XYZ."

Now let's look at the middle block, the one that reads "Rotation." As you can see, it has three rows, X, Y, and Z. It also has eight columns: Start %, Entry, Exit, Cycles, Ease I, Ease O, Del I, and Del O. At the end

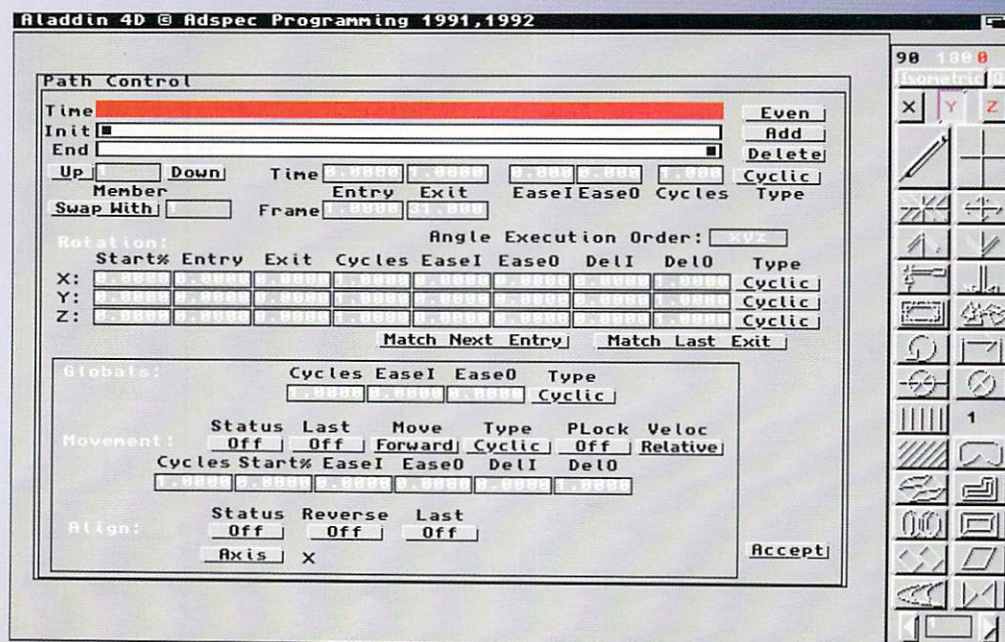


Figure 1:
Here is the A4D Path
Control Requester.

of each of the axis rows is also a Type toggle that can be set to either Cyclic or Periodic. Below that are two buttons: Match Next Entry and Match Last Exit. We will look at each of these settings in turn.

Since learning is by doing, follow this tutorial along by constructing a simple path and object. Make a rectangle (Tools/Make a Rectangle) that is about 3/4" square on your screen. Now make a closed arc (Tools/Make an Arc) that uses the default arc settings. Enlarge the arc until it is about an inch from both the top and bottom of your screen. Select the Arc and make it a path (Paths/Make Poly a Path).

Select the arc and go to the Tools menu and "Choose FirstPoint." Click on the top of the arc, making that the first point. "Set" the arc by clicking the right mouse button. Now select the rectangle by the top right edge. Go to the Point Snap tool in the toolbox, the one that looks like an arrow between two vertical lines, and click it with your right mouse button. The rectangle should snap its right upper corner to the arc's firstpoint (Figure 2). By the way, objects can still be assigned to paths at a distance in A4D, but the motion will be much less intuitive and more erratic.

Now select the arc again and Paths menu and assign the rectangle to the path by choosing "Assign a Path." Now we're ready to experiment with the Path settings. Each of these experiments will require that you select the path and choose "Alter a Path" to get the settings to apply to the rectangle object. Before we begin, there's one more task. Go to the Preview settings (View/Preview Animation) and set the frame numbers to 1 to 200. This will give us a chance to see things in slower motion so we can make clearer observations concerning what's going on. Now we are ready to alter the settings in the path requester. After each change you make in the path requester, watch it apply itself to the animation by pressing the F9 function key. This plays the wireframe animation, and the Escape key gets you back to the editor screen.

As we define each of the parameters below, apply them to one or more axis of the path, "Accept" the change, and run the wireframe, observing carefully how the rectangle object is affected by the path alteration. Before beginning, toggle "Status" and "Movement" to ON in the "Movement" line at the bottom of the Path Control requester.

Start %: This setting tells the path to animate the object at a certain point along in its rotation on whatever axis of the three you apply it to. As an example, making this read 50% on an X-axis rotation of 150 degrees would mean that our object would start out already rotated on the x at 50% of its setting, or 75 degrees ($50\% \text{ of } 150 = 75$).

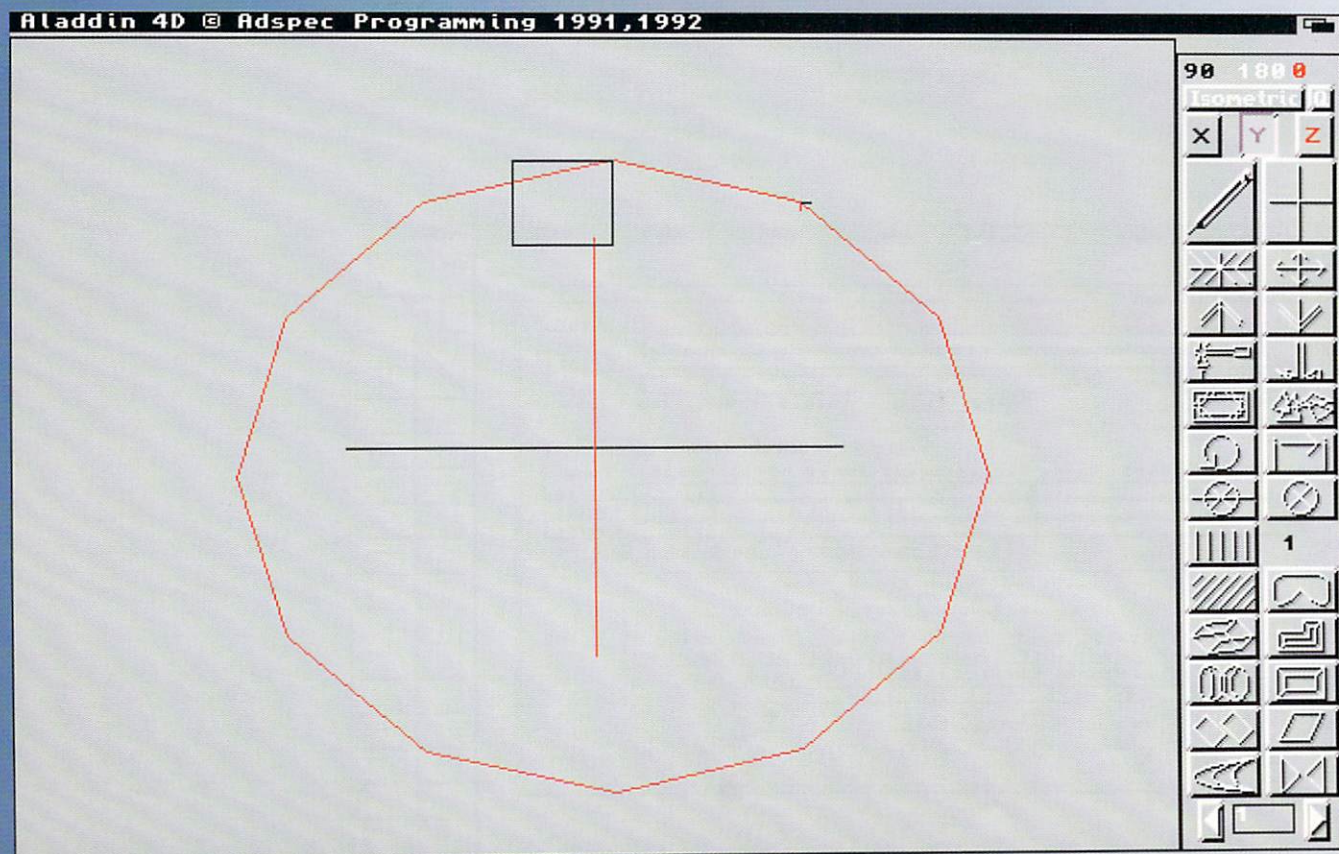
Entry/Exit settings: Normally, the Exit is left at 0, while determinations of degrees of rotation of an object are entered in the "Entry" area. This number is the total degrees the object will rotate with each cycle or period.

Cycles: Indicates the number of times rotations will be performed. Interesting things can happen when this is set to decimal equivalents.

Ease In / Ease Out: Mathematical delays set at the start and/or end of an rotation. The object will move on the path, but will not perform the rotation until later if an ease-in is set. The higher the number in Ease-In, the later in the animation the rotation will begin. The higher the number of Ease-Out, the sooner the animation will complete itself on the path. These settings have to be played with to get any real feel for how they alter an object's motion on a path.

DEL 1 / DEL 0: Use numbers between 0 and 1 to determine time that should either expire (DEL 1) and/or remain (DEL 0) before animation begins and after it ends.

Type: This can be set to either Cyclic or Periodical. Cyclic runs the movements from start to end, while periodical ping-pongs them, start to end to start.



Now let's turn our attention to the box at the bottom of the Path Control requester. The items under globals perform their operations (Cycles, Eases, Type) on every path axis at the same time. "Movement" status should be on if you want the object to move along the selected path.

"Last" should be on if you desire that the object complete the path, as opposed to skipping the last section. Later in these tutorials, we'll examine situations where setting "Last" to OFF is equally as important. By now you should understand the other settings here, except for the one marked "PLOCK" and "Velocity." PLOCK (Point Lock) makes the object skip to each successive point on the poly path in jerky motion, and is a valuable effect. Try it! The Velocity setting allows you to alter the time taken by the object to get from

Rotation City!

Take a careful look at Figure 3 as you follow along in the text. We are going to create a much more complex series of movements in a scene, but the techniques will draw upon the experience gained from the simple processes described above. We will create a planet, around which will orbit a moon object that has a hole through it. Through this hole will pass another object that is orbiting the moon, and around this object will orbit yet another. As far as the general creation tools are concerned, it is assumed that you have some knowledge of how to create them in A4D. If not, spend some time with the A4D manual before proceeding.

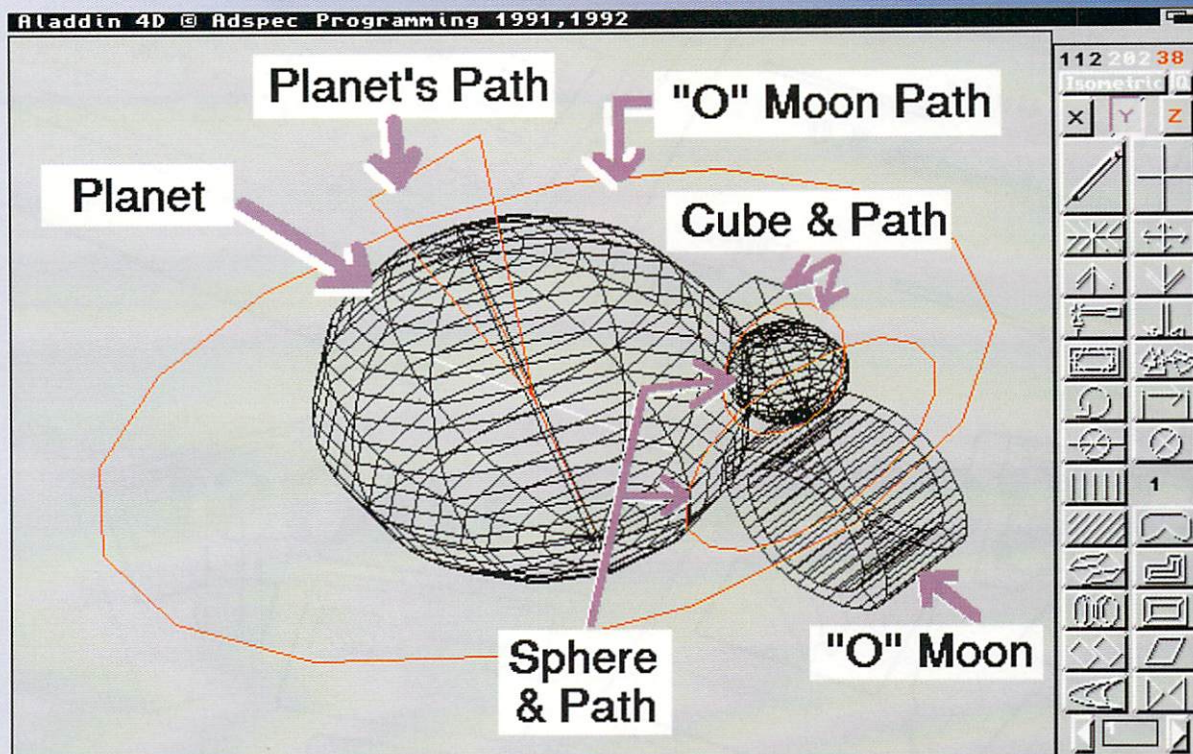


Figure 2: Opposite page, A simple rectangular object and an arc path allow you to study and learn all of the A4D path options.

Figure 3: The more complex tutorial is shown in wireframe and with call-outs in this view.

one polygonal path point to another. If toggled to "Constant," the object will travel at the same rate of speed no matter what the distance between path points. If toggled to "Relative," however, the longer distances between points will cause the object to speed up, and shorter distances make it slow down. This is a great setting for moving insects, as it can be designed to cause very erratic motions on a path. I actually prefer using this method to the "Ease" settings, though they don't perform exactly the same effects. It's much more intuitive to me. Experiment!

"Align" allows objects to take their direction information from the path, and Reverse does what it says to the object's rotation. "Last" allows the object to be aligned in its rotation for the last segment of the poly path. Axis is set to Z by default, but change it and see what happens to the movement of your object. Finally, one chooses the "Accept" button to close the requester and apply the changes to the selected path. Experiment with these settings as they apply to the simple rectangular object and the arc path as described above before tackling the more complex example to follow.

1. Create the planet by making a 180 degree arc with 24 points. Use the lathe tool to rotate this around the Z-axis to make the planet; be sure to say OFF to "Connect Last" in the lathe tool requester. Phong shade it, give it high reflectivity and hi-light size Attributes, and Spherical Map it around the Z-axis with a procedural texture (try Bounded Noise). Test-render it for preview.

2. Make a rotation path for the planet. Right Mouse click on the ATPoint tool after selecting the object. This moves the ATPoint to its center. Choose the draw tool and draw a triangle from the ATPoint out beyond the planet. Make sure you're in the Y-axis. Make this poly a path, and set the Z Entry degrees to 360 in the Path Control requester; do not set movement to on. Accept it. Assign the planet to the path, and preview the animation (120 frames). Then "hide" this object and its path.

3. Choose a capital letter "O" from one of the A4D fonts you have in your A4D fonts drawer. Enlarge it to about 1/4 the size of the planet. Extrude it (Y=5000), Phong shade it, and color it yellow, reflective, and very "hard." Render it for preview. Hide it.

4. Create a red ball about 1/3 the size of the "O" moon, Phong shade, high reflective and hi-light. Render for preview. Hide it.

(continued on page 63)



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CanDo: An Interactive Authoring Tool

Part 3 - Building a Custom Object

by Randy Finch

As I have promised, this installment of CanDo will cover developing a custom object by combining several standard CanDo objects. In the last part, I discussed using dynamic array variables, documents, and list objects to create hierarchical lists of names as part of a budgeting program entitled SimpleBudget. Now I will discuss a custom object I created to use on several cards in this same program.

The Love of Money

You have probably seen many programs that allow the input of a monetary amount in dollars and cents. Well, I obviously needed this capability in my budgeting program. I call the object I created for this purpose a Monetary Input Object (MIO). The MIO was designed to allow easy keyboard and mouse input. Several standard CanDo objects were combined to create the MIO.

The Ladder of Success

When designing a custom object, a plan is needed to make the development process as easy as possible. Here is my seven-step ladder of success plan:

1. Decide what the custom object should do and how it should operate
2. Determine which standard CanDo objects are needed to create the custom object
3. Decide how the standard objects should be arranged on a CanDo card so that the custom object will be user friendly
4. Create a CanDo card and arrange the standard objects according to Step 3
5. Write the object event routines to give the custom object the appropriate functionality according to Step 1
6. Test and debug
7. If the custom object cannot be made to work as planned, start over with Step 1

You may think that I am copping out with this last step. Well, I must admit that I am to some extent; however, any plan that does not allow for starting over in the event that things do not go well is a plan that will fail more often than not.

Climbing the MIO Ladder

I wanted the MIO to be easy to use with both the keyboard and the mouse. In order to avoid the round-off error that can occur when using floating point numbers for monetary values, and given that CanDo has no built-in support for a currency data type, I split the dollars and cents into two separate integer values. I wanted to allow the user to increment and decrement the dollar and cent values using the mouse. However, unlike other programs I have used, I wanted the user to be able to quickly set large values using the mouse without having to wait as the

values changed only by one. Therefore, I decided that the increment value should increase as the user continues to hold down the mouse button. Finally, I wanted to have a quick way for the user to clear the MIO to \$0.00.

In order to implement the above specifications, I needed the following standard CanDo objects: two TextField objects, one for the dollar value and one for the cent value; four AreaButton objects, two with up arrows and two with down arrows for allowing incrementing and decrementing of the dollar and cent values using a mouse; and one TextButton object for quickly clearing the MIO to \$0.00.

Laying out the standard CanDo objects in a user-friendly fashion was rather easy since there seemed to be only one logical way to do it. I decided that the dollar TextField should be to the left of the cent TextField with a slight gap between the two to clearly show that they are separate from each other. A dollar sign (\$) should appear to the left of the dollar field to indicate that the input should be a monetary quantity. The four AreaButton objects should be laid out in a two-by-two grid to the right of the cent field with the top two having up arrows on them to indicate incrementing and the bottom two having down arrows to indicate decrementing. The two buttons on the left

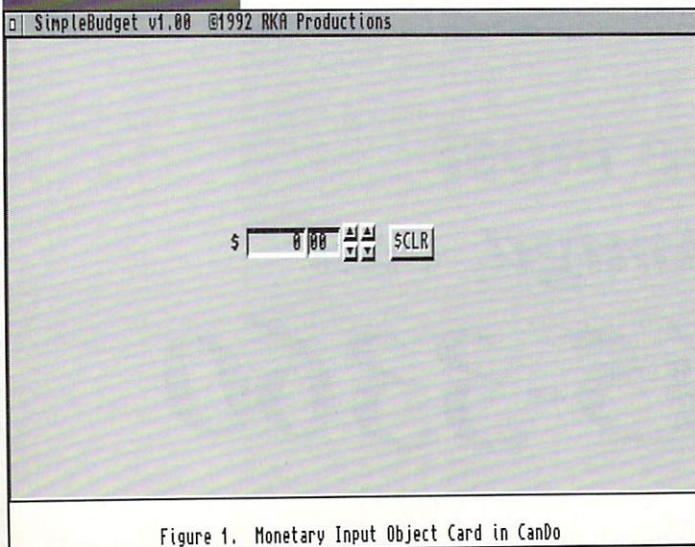
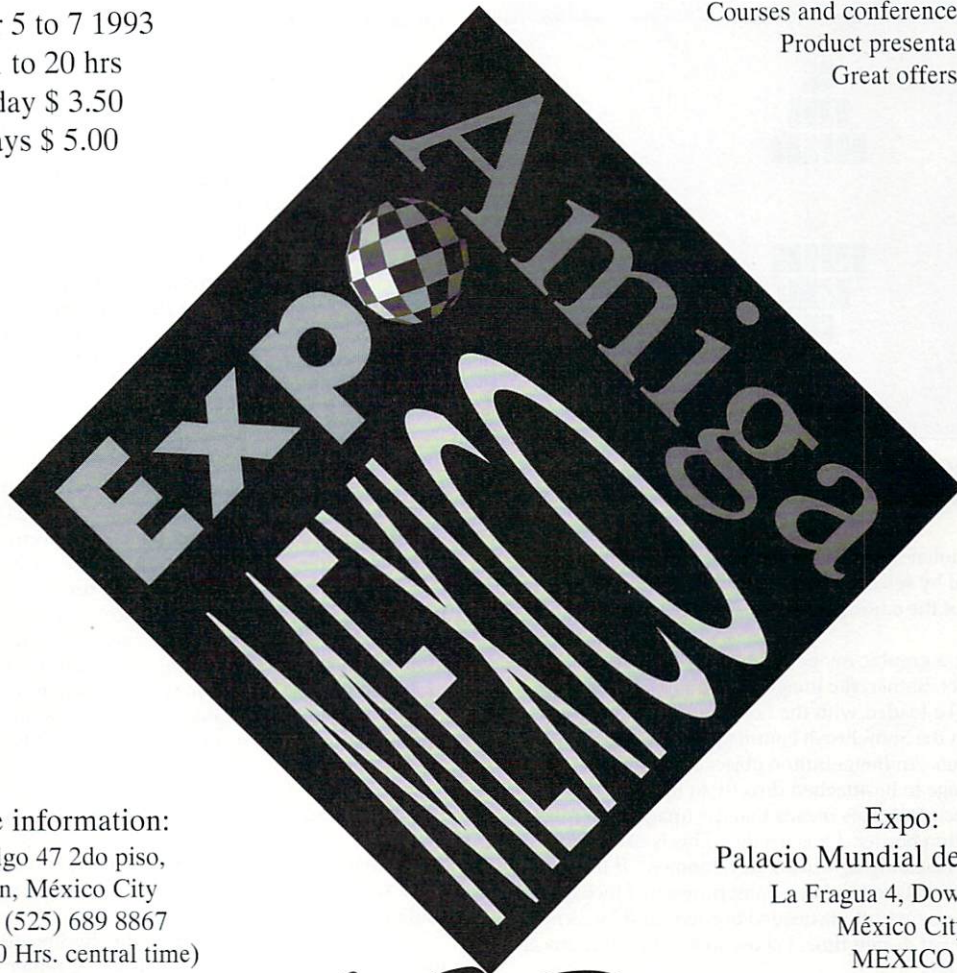


Figure 1. Monetary Input Object Card in CanDo

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would be used for changing the dollar value while the two on the right would be used for changing the cent value. Finally, the TextField button for clearing the MIO should enclose the text \$CLR to indicate that the monetary value will be cleared. Its position should be flexible so it can be placed according to the layout of the card to which the MIO will be added.

The layout of the MIO on a CanDo card is shown in Figure 1. The details of the card can be found in the Window section of Listing 1 while the details of the objects making up the MIO can be found in the Definition sections of the objects in the same listing. (See Part II of this article in last month's issue for more detail on reading CanDo source code.) The dollar sign (\$) to the left of the MIO was put on the screen using CanDo commands in the AfterAttachment event routine near the beginning of Listing 1. The first three lines of code in this routine set the font and print style,

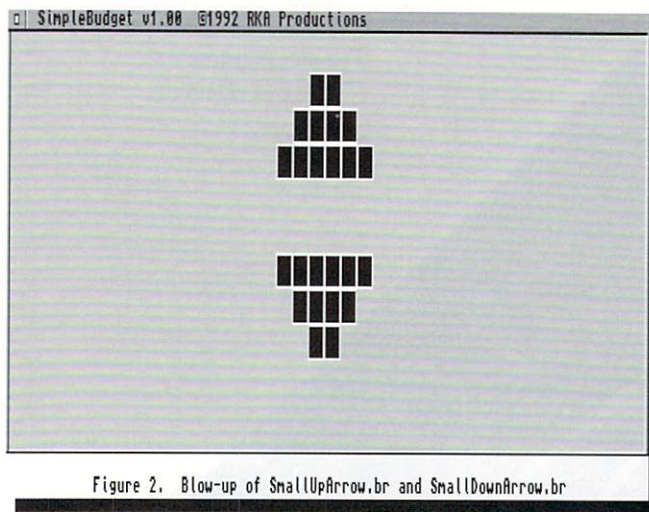


Figure 2. Blow-up of SmallUpArrow.br and SmallDownArrow.br

and then print the dollar sign. You can get CanDo to write these lines of code for you by selecting the Text Editor Tool—the big A button to the right of the editing window—and selecting the font, style, and text.

Unfortunately, a graphic image cannot be attached directly to an AreaButton object. Rather, the image, which must be an IFF ILBM brush, has to be loaded with the LoadBrush command and then displayed with the ShowBrush command at the appropriate location on the screen. An ImageButton object could be used. This object allows an image to be attached directly to the object; however, no border can be specified. This means that the image itself must also include the button border if it is needed. This is okay if the button size will not be changing during development. If it does change, the image must be edited in a paint program. Since the four increment and decrement buttons needed borders, and I was not sure about the sizing at design time, I chose to use AreaButtons and ShowBrush commands.

The small up and down arrows used on the four AreaButtons are brushes I created in *DeluxePaint IV*. Their file names are SmallUpArrow.br and SmallDownArrow.br. Figure 2 shows an enlargement of the two brushes so you can easily create these brushes for your program. The last six lines of the AfterAttachment routine load and display these brushes in the four AreaButtons. If you need to move the MIO to a different location on the card, then the X,Y position in the ShowBrush commands will have to be changed. This is also true of the X,Y position for the \$ in the PrintText command. The Transparent False command tells CanDo to display any transparent background color that may have been saved with the brush.

The object event routines are shown in Listing 1. Each object that makes up the MIO only has one event associated with it. The two TextField objects each have an OnRelease event routine. OnRelease means that the user has pressed the ENTER key. I will discuss these routines in more detail later.

The four AreaButton objects each have an OnClick routine. Normally an OnRelease routine is used for buttons since this gives the user a chance to change his or her mind about the selection after pressing the mouse button by moving the pointer off the object before releasing. However, in the case of the increment and decrement buttons, I wanted the cent or dollar value to begin changing when the mouse button is first clicked and continue to change until the mouse button is released. Thus, I used the OnClick routine and increment or decrement the dollar or cent value until the user releases the mouse button. More about this later.

Finally, the TextButton object for clearing the MIO uses the standard OnRelease routine. It simply resets the dollar and cent fields to 0 and 00, respectively.

Figure 3 shows the MIO as part of a more extensive card in my SimpleBudget program. Notice that I changed the relative position of the \$CLR button to accommodate the design of the card.

More About the Code

One of the first problems I ran into when writing the event routines for the MIO was associated with the Dollars TextField. You may have already wondered why I did not make this an integer field. Well, I originally did. However, after entering a value in the Dollars field, there was always a trailing space in the field that made the MIO look unnatural. A few tricky techniques could be used to eliminate this problem for dollar values containing more than one digit, but I could not find a way to eliminate the problem for one-digit values. Therefore, I made the field a text field, which created another problem: any character could be input, not just numeric characters. The FormatValue function could not be used because it changes a -0 (for values such as \$-0.28) to a 0. There was still a problem with a trailing space at the end of the dollar value. However, because it was a text field, there was a way around this problem. The Dollars field contents could be stored in a temporary variable, the field cleared, and the temporary variable put back in the field. This procedure eliminates the trailing space. (This technique did not work on an integer field with one-digit values.) It works fine from the user's perspective, but it is not a very glamorous solution from the programmer's perspective. INOVAtronics needs to address this problem in a future release of CanDo.

The Cents field was created as a text entry rather than an integer entry to prevent, for instance, a value of five from being displayed as 5 rather than 05 or a zero as a 0 rather than 00. For monetary amounts, the leading zero is always needed for single digit cent values. The FormatValue function could be applied to the Cents field since no -0 values are needed in this field. A single command line could be used to accomplish the appropriate formatting:

```
SetText "Cents",FormatValue(TextFrom("Cents"),"00")
```

An equivalent method without the FormatValue function did not work with the Dollars field because it is right justified and the trailing space was not eliminated.

I will not give you a boring line-by-line description of how the increment and decrement buttons work; rather I will describe how they work from a user's perspective and then let you follow through the code in Listing 1 to see how it was implemented. I decided to limit the MIO to a maximum value of \$99999.99 and a minimum value of \$-99999.99. This was more than sufficient to cover any amounts I would be using in my budget program.

When the user first clicks on the increment cents button, the value in the Cents field begins incrementing by one. When the cents value reaches a multiple of 10, the increment value is increased to 10, thus allowing the user to more quickly reach the value needed. When the cents value reaches 100, the Cents field is cleared to 00 and the dollar value is incremented by one. When the user releases the mouse button, this process ends. It can be restarted with an increment value of one by clicking on the button once again. The decrement cents button works the same way except it subtracts the increment value. Note that if the dollar value is negative, then the increment cents button must decrement the cents value and the decrement button must increment it. I will leave it to you to

determine why this is true.

When the user first clicks on the increment dollars button, the value in the Dollars field begins incrementing by one. When the dollar value reaches a multiple of 10, the increment value is increased to 10. When it reaches a multiple of 100, the increment value is increased to 100, and so on. Of course, as the dollar value approaches the maximum value of 99999, the increment value has to decrease to make sure the maximum value is never exceeded. When the user releases the mouse button, this process ends. It can be restarted with an increment value of one by clicking on the button once again. The decrement dollars button works the same way except it subtracts the increment value.

All of the increment and decrement buttons' event routines have to take special care when the dollar value is near 0. For instance, if the MIO contains a value of \$0.00 and the user wants to decrement the cent value by one, the dollar value must become a -0. A negative one cent is displayed as \$-0.01; the negative sign is in the Dollars field.

Re-using a Custom Object

If you need to re-use a custom object on other cards in your CanDo decks, you can create the custom object on a card by itself and then save it to disk as a one-card deck. Later, you can load this deck, move the standard objects making up the custom object to the appropriate place on the card and then add the additional objects needed for the card.

If you need to add a new card containing the custom object to an existing deck, you can load the one-card deck containing the custom object, copy the card using the Copy option in the Mode menu (part of the Main Control Panel), load the deck you wish to add the card to, paste the card containing the custom object to that deck, position the custom object, and then add other objects. The custom object can be added to an existing card containing other objects by copying and pasting each individual standard object making up the custom object.

One feature I would really like to see added to CanDo is the ability to group standard objects together and save them as a custom object for later loading directly to another card. This would allow a person to create custom objects and easily distribute them to other people. Of course, CanDo should allow the object to be placed anywhere on the card without having to rewrite any code. Maybe the next release of CanDo....

Now It's Your Turn

There are several nice features I would like to see added to the MIO custom object. I am challenging you, the reader, to develop the solutions. First, I would like to be able to prevent the user from entering any characters in the Dollars field except the ten digits 0-9 and a leading minus sign (-). Remember, -0 is a legitimate value. The Cents field should only accept the integers 0-9 and should always display its value with two digits such as 00, 07, and 23. A zero should not display as a single 0 or a seven as 7. This is confusing when viewing monetary values. Second, it would be nice if, when the user is entering the dollar amount and presses the period key (for a decimal point), the input field would change from the Dollars field to the Cents field.

If you will send me your solutions to the above challenges in care of this magazine, I will choose the best solutions and include them in a future installment of this series.

Last Minute Info

Just before submitting this article for publication, I received my CanDo 2.5 upgrade. I plan to discuss the new features of this release in the next installment.

Monetary Input Object Listing

```
*****
* Deck "CanDo-Part3"
* Time 23:05:29
* Date 08/11/93
*****
```

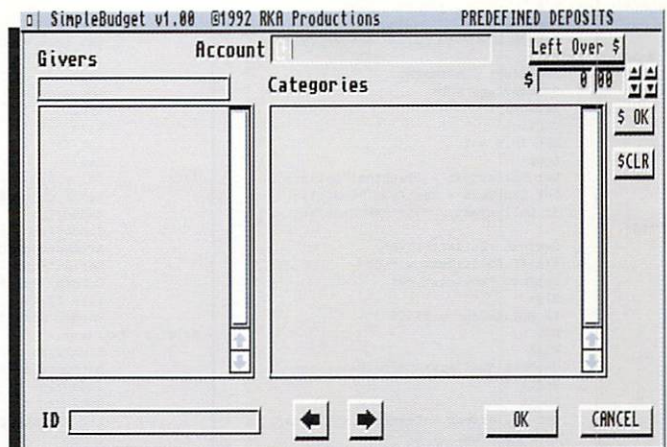


Figure 3. Monetary Input Object Used on a Card in SimpleBudget Application

```
*****
* Card(s) in deck.
* Card "CanDo-Part3"
*****
* 1 Card(s), 1 were printed.
*****

*****
* Natural order of Cards
* Card "CanDo-Part3"
*****

*****
* There are no Global routines in this deck.
*****

*****
* Card "CanDo-Part3"
  AfterAttachment ; used to be AfterStartup
  SetPrintFont "topaz",8
  SetPrintStyle BOLD,2,3
  PrintText "$",208,91
  Transparent FALSE
  LoadBrush "RCF:CanDo/Brushes/SmallUpArrow.br","ClippedBrush"
  ShowBrush "ClippedBrush",315,89
  ShowBrush "ClippedBrush",331,89
  LoadBrush "RCF:CanDo/Brushes/SmallDownArrow.br","ClippedBrush"
  ShowBrush "ClippedBrush",315,97
  ShowBrush "ClippedBrush",331,97
  EndScript
  Window "UserWindow"
  Definition
  Origin 0,0
  Size 640,200
  Title "SimpleBudget v1.00 -1992 RKA Productions"
  NumberOfColors 4
  WindowColors 3,1,0 ; Detail, Block, Background
  WindowObjects CLOSEBUTTON
  WindowFlags ACTIVATE SEPARATESCREEN TOFRONT
  EndScript
  OnCloseButton
  Quit
  EndScript
  EndObject
  TextField "Dollars"
  Definition
  Origin 225,91
  Size 50,8
  Justification RIGHT
  MaxFieldLength 6
  InitialText "0"
  Border EMBOSSED,1,2 ; BorderStyle, MainPen, ExtraPen
  EndScript
  OnRelease
  Nop ; Eliminate the trailing space in box
  Let DollarText = TextFrom("Dollars")
  SetText "Dollars",""
  SetText "Dollars",DollarText
  EndScript
  EndObject
  TextField "Cents"
  Definition
  Origin 281,91
  Size 26,8
  Justification LEFT
  MaxFieldLength 2
  InitialText "00"
  Border EMBOSSED,1,2 ; BorderStyle, MainPen, ExtraPen
  EndScript
  OnRelease
  SetText "Cents",FormatValue(TextFrom("Cents"),"00")
  EndScript
  EndObject
  AreaButton "DollarsUp"
  Definition
  Origin 313,89
```



```

Size 10,4
Border EMBOSSED ,2,1 ; BorderStyle,
MainPen, ExtraPen
Highlight COMPLEMENT
ButtonFlags NONE
EndScript
OnClick
Let Incr = 1
Loop
Let DollarText = TextFrom("Dollars")
Let CentText = TextFrom("Cents")
If DollarText = "-1" AND CentText <> "00"
"00"
SetText "Dollars", "-0"
ElseIf DollarText = "-0"
SetText "Dollars", "0"
Else
If DollarText = 99999
Nop
Else
SetText "Dollars", DollarText+Incr
EndIf
EndIf
Let DollarText = TextFrom("Dollars")
If DollarText <> 0
If DollarText MOD 10000 = 0
If DollarText = 99000
Let Incr = 1000
Else
Let Incr = 10000
EndIf
ElseIf DollarText MOD 1000 = 0
If DollarText = 99000
Let Incr = 100
Else
Let Incr = 1000
EndIf
ElseIf DollarText MOD 100 = 0
If DollarText = 99900
Let Incr = 10
Else
Let Incr = 100
EndIf
ElseIf DollarText MOD 10 = 0
If DollarText = 99990
Let Incr = 1
Else
Let Incr = 10
EndIf
Else
Let Incr = 1
EndIf
Delay 0,0,5
Until ObjectState("DollarsUp") = OFF
EndScript
EndObject
AreaButton "DollarsDown"
Definition
Origin 313,97
Size 10,4
Border EMBOSSED ,2,1 ; BorderStyle,
MainPen, ExtraPen
Highlight COMPLEMENT
ButtonFlags NONE
EndScript
OnClick
Let Incr = 1
Loop
Let DollarText = TextFrom("Dollars")
Let CentText = TextFrom("Cents")
If DollarText = "0" AND CentText <> "00"
SetText "Dollars", "-0"
Else
If DollarText = -99999
Nop
Else
SetText "Dollars", DollarText-Incr
EndIf
EndIf
Let DollarText = TextFrom("Dollars")
If Integer(DollarText) <> 0
If DollarText MOD 10000 = 0
If DollarText = -90000
Let Incr = 1000
Else
Let Incr = 10000
EndIf
ElseIf DollarText MOD 1000 = 0
If DollarText = -99000
Let Incr = 100
Else
Let Incr = 1000
EndIf
ElseIf DollarText MOD 100 = 0
If DollarText = -99900
Let Incr = 10
Else
Let Incr = 100
EndIf
ElseIf DollarText MOD 10 = 0
If DollarText = -99990
Let Incr = 1

```

```

Else
Let Incr = 10
EndIf
Else
Let Incr = 1
EndIf
Else
Let Incr = 1
EndIf
Delay 0,0,5
Until ObjectState("DollarsDown") = OFF
EndScript
EndObject
AreaButton "CentsUp"
Definition
Origin 329,89
Size 10,4
Border EMBOSSED ,2,1 ; BorderStyle,
MainPen, ExtraPen
Highlight COMPLEMENT
ButtonFlags NONE
EndScript
OnClick
Let FirstLoop = TRUE
Loop
If Char(ASCII(TextFrom("Dollars"))) = "-"
If TextFrom("Cents") = "00"
If TextFrom("Dollars") = "-1"
SetText "Dollars", "-0"
Else
SetText "Dollars", TextFrom("Dollars")+1
EndIf
If FirstLoop = FALSE
SetText "Cents", "90"
Else
SetText "Cents", "99"
EndIf
ElseIf TextFrom("Cents") MOD 10 = 0 And
FirstLoop = FALSE
If TextFrom("Cents") = "10" AND
TextFrom("Dollars") = "-0"
SetText "Dollars", "0"
EndIf
SetText
"Cents", FormatValue(TextFrom("Cents")-10, "00")
Else
If TextFrom("Cents") = "01" AND
TextFrom("Dollars") = "-0"
SetText "Dollars", "0"
EndIf
SetText
"Cents", FormatValue(TextFrom("Cents")-1, "00")
EndIf
Else
If TextFrom("Cents") = "99"
If TextFrom("Dollars") = "99999"
Nop
Else
SetText "Cents", "00"
SetText "Dollars", TextFrom("Dollars")+1
EndIf
ElseIf TextFrom("Cents") MOD 10 = 0 And
FirstLoop = FALSE
If TextFrom("Cents") = "90"
If TextFrom("Dollars") = "99999"
SetText "Cents", "99"
Else
SetText "Dollars", TextFrom("Dollars")+1
SetText "Cents", "00"
EndIf
Else
SetText
"Cents", FormatValue(TextFrom("Cents")+10, "00")
EndIf
Else
SetText
"Cents", FormatValue(TextFrom("Cents")+1, "00")
EndIf
Let FirstLoop = FALSE
Delay 0,0,5
Until ObjectState("CentsUp") = OFF
EndScript
EndObject
AreaButton "CentsDown"
Definition
Origin 329,97
Size 10,4
Border EMBOSSED ,2,1 ; BorderStyle,
MainPen, ExtraPen
Highlight COMPLEMENT
ButtonFlags NONE
EndScript
OnClick
Let FirstLoop = TRUE
Loop
Let DollarText = TextFrom("Dollars")
Let CentText = TextFrom("Cents")
If Char(ASCII(DollarText)) = "-"
If CentText MOD 10 = 0 And FirstLoop =
FALSE
If CentText = "90"
If DollarText = "-99999"
SetText "Cents", "99"

```

```

Else
SetText "Cents", "00"
SetText "Dollars", DollarText-1
EndIf
Else
SetText
"Cents", FormatValue(CentText+10, "00")
EndIf
ElseIf CentText = "99"
If DollarText = "-99999"
Nop
Else
SetText "Cents", "00"
SetText "Dollars", DollarText-1
EndIf
Else
SetText
"Cents", FormatValue(CentText+1, "00")
EndIf
Else
If CentText MOD 10 = 0 AND FirstLoop =
FALSE
If CentText = "00"
If DollarText = "0"
SetText "Cents", "10"
SetText "Dollars", "-0"
Else
SetText "Cents", "90"
SetText "Dollars", DollarText-1
EndIf
Else
SetText "Cents", FormatValue(CentText-
10, "00")
EndIf
Else
If CentText = "00"
If DollarText = "0"
SetText "Cents", "01"
SetText "Dollars", "-0"
Else
SetText "Cents", "99"
SetText "Dollars", DollarText-1
EndIf
Else
SetText "Cents", FormatValue(CentText-
1, "00")
EndIf
EndIf
EndIf
Let FirstLoop = FALSE
Delay 0,0,5
Until ObjectState("CentsDown") = OFF
EndScript
EndObject
TextButton "Amount_Clear"
Definition
Origin 356,90
Font "topaz", 8 ; FontName, PointSize
PrintStyle SHADOW ,2,3 ; Style, Pen1,
Pen2
TextColors 1,0,NORMAL ; PenA, PenB,
DrawMode
Text "$CLR"
Border EMBOSSED ,2,1 ; BorderStyle,
MainPen, ExtraPen
Highlight OUTLINE
ButtonFlags NONE
EndScript
OnRelease
SetText "Dollars", "0"
SetText "Cents", "00"
EndScript
EndObject
* End of Card "CanDo-Part3"
*****

```

•AC•

*Editor's note:
Use caution when entering this code.
Tight layout space caused some of the
lines to wrap. Do not recreate the line
wraps when entering the code.*

*Please Write to:
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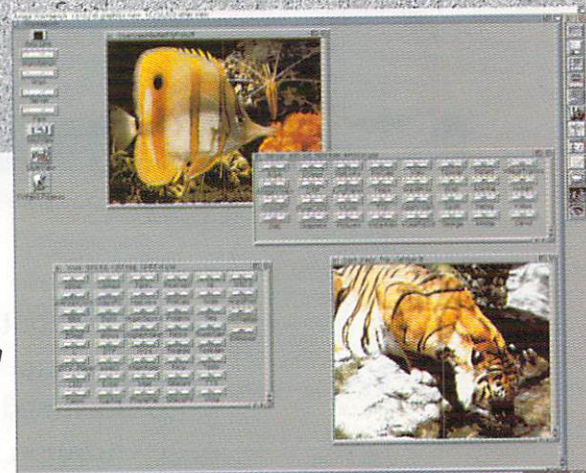
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1280 x 1024
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Picasso II AutoSwitch means One Monitor.

The Picasso II comes with a built in electronic switch that automatically routes the proper signal to your monitor. When the AutoSwitch detects non-Picasso II screens, such as those used by games and older software, it automatically routes the signal directly to your monitor. When the AutoSwitch senses a Picasso II screen mode, it will automatically switch back.

The Picasso II comes packaged with TVPaint Jr. (24 Bit Paint Program), and drivers for ArtDept Professional, ImageFx, ImageMaster, and Real 3D 2.0.

***Re-tar-get-ab-le Gra-phics adj.:** The ability to run software on any third party graphics board. See also: Picasso II.

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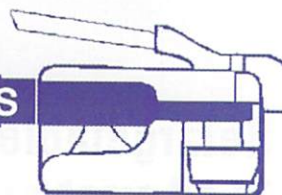
Circle 116 on Reader Service card.

**NEW
COLUMN**

on line

by
Rob
Hays

amiga telecommunications



Without communication, knowledge is worthless, or nearly so. If you cannot communicate your wisdom or discoveries, then everyone is condemned to continually re-inventing the wheel. This is true for civilization in general, and for computers in particular. After all, why should you waste hours solving a problem that someone else solved years ago? Communication is the key. In this series of articles, we will explore a small fraction of the information available to Amiga owners through the expanding universe of on-line services.

Opening

new

doors

for

your

Amiga

What can you find out there? You can find information on every possible aspect of Amiga use and programming. You can find thousands of other Amiga owners just like yourself that either need your help with a problem, or can help you solve yours. Where do you find all of this? There are several major on-line services, and literally thousands of small, local Bulletin Board Systems.

Think of a giant bulletin board centrally located in your town. If you have a question that you need help with, post a message on the board stating the question. While you're there, browse over the rest of the board looking at messages others have left. If you see a question from someone that you know the answer to, post your response, and the next time they check the board they will see your solution to their problem. Come back later and see if anyone answered the question you asked. Of course with a BBS, the bulletin board is located somewhere far away, and yet is centrally located to everyone on the planet via the telephone network.

The above example barely scratches the surface of available services. If you don't want every other user to read a question or comment directed to one individual, Electronic Mail is also available. Just like normal mail, E-mail goes to an individual's address, in this case an electronic one, to be read by that person at their leisure. Thousands and thousands of programs and demos of commercial releases are available to download. This is the process whereby you actually transfer a program file to your home system

This Month: What you need to know to get going in Amiga telecommunications

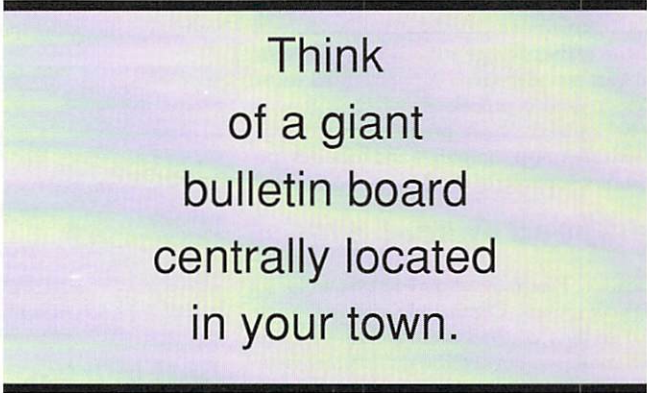
to use while you are not connected to the host system. For game players, some systems also offer multi-player games which let you compete directly with other users who could be across the street, or on the other side of the Earth.

Naturally something this good isn't free. Not only must you pay a membership fee and charges for the time you spend on-line, which varies from system to system, you will also need to purchase a modem. This is a contraction of the words MODulator/DEModulator, which describe perfectly the function of the device. It modulates digital information into audio frequency tones, and demodulates these tones back into digital information. Modems can be external and connected to the serial port by a cable, or internal if your Amiga has expansion slots. Owners of A600s and A1200s can also purchase modems that connect to the PCMCIA slot those computers have. Modems come in various speeds, ranging from 300 to 14,400 bps (bits per second), with the most common rating currently being 2400 bps. Many modems also include built-in functions such as error correction and data compression, and some will even send and receive fax transmissions.

If all things were equal, which modem to buy would be clear; the fastest one available. Unfortunately, not everything is equal. In addition to higher initial cost for the modem, most commercial services charge more per hour of connect time when modem speed is above a certain level. So you may end up spending less time on-line, and still have higher bills than someone using a slower modem. The good news is that all modems can operate at every speed setting up to their maximum. This lets you use slower, less expensive speeds for browsing and general purposes, such as searching for a file to download. You can then log off, switch to your modems fastest speed, log back on and download that file quickly, then log off.

You will also need some telecommunication software. Most modems are supplied with a bare-bones terminal program that will get you started, but you will soon need a full-featured terminal program. Since it seems that no two people can agree on the perfect terminal program features, it is no surprise that there are so many different ones. Currently available commercial programs include

ATalk III and *Mindlink*. In addition, it seems that most programmers' first major effort is a terminal program, so there are probably hundreds of shareware programs available. Some features to check for in your terminal program are a variety of downloading protocols, the ability to capture text as it scrolls past your eyes too fast to read, and a built-in phone book that will automatically dial the service you select.



Think
of a giant
bulletin board
centrally located
in your town.

Download protocols essentially are error-checking routines that are far more sophisticated than those built into the modem. Generally, these break files into small chunks, and compute a checksum based on the value of all the ones and zeros in that chunk (called a packet). When that packet is transmitted, the receiving system computes its own checksum and compares it to the one included in the packet. If everything is OK, it sends a signal to the sending system, and the next packet is transmitted. If the checksum doesn't match, the receiving system tells the sender to try that packet again. The sending and receiving systems must use the same protocol, and you are given a list to choose from prior to downloading. Common protocols are X-modem, Y-modem, and Z-modem. In addition, some services use proprietary protocols that offer improved performance.

Since most files are compressed, or archived, to speed transmit time, you will need to download the programs needed to decompress later files. Compressed files will have a three-letter extension after the file name to indicate which program is needed to expand the file. The most commonly used archivers in the Amiga community are Arc, (file extension is .arc), PKAzip, (extension .zip), and LZ, (file extension can be either .lha or .lhz depending on the version used to compress). You should also have a virus checking program running in the background on your system, especially when trying

new programs for the first time. Current favorites include *Virus Checker V.6.20* and *VirusZ 3.0*.

For your first on-line experiments it is a good idea to try local BBSs to eliminate long distance phone charges while you are learning the ropes. The first place to check for BBS numbers is your local Amiga dealer. They will be more than happy to supply you with the numbers of any Amiga-specific boards in your area when you buy your modem. If you have no local dealer and don't know any other Amiga users to ask, look in a bookstore for a copy of the magazine *Computer Shopper*. Every month they print a listing of BBS

numbers divided by state and area code. The list has become so large that they recently began printing half of it every month, so check for your state before buying. You may have to wait a month for your area to be published.

Once you have the modem connected to your Amiga and the phone line, and the terminal software installed, open the Prefs (or Preferences, depending on the version of your Workbench) drawer on your Workbench disk, and double-click on the serial editor. While some software and hardware may require specific settings, for the most part the following will work. Some terminal software will override your Preferences settings, so be sure and check your terminal program as well. Set the baud rate (another term for bits per second) for the highest speed your modem will operate at. Set the character length to eight bits, with no parity, and one stop bit. This is almost a universal setting, abbreviated 8N1, and will at least allow you to access almost every BBS.

That's all for now, next time we will begin a tour of the major BBSs. See you on-line!

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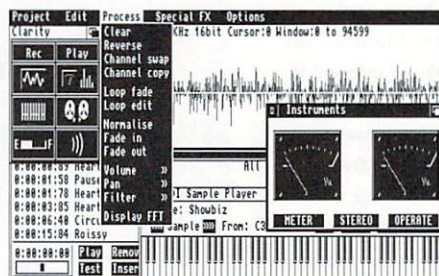
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The software package includes a powerful multitasking windowed sample editor with advanced editing and signal processing capabilities. The system can also perform real time effects processing as well as function as a MIDI sample sequencer. Clarity 16 is compatible with all Amiga computers including the A1200 and A4000.



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Circle 120 on Reader Service card.

Creating

Logos

by Dan Weiss

Recently a number of the organizations that I am associated with have decided to change their logos. This is a common and periodic practice in most businesses. If you have a very recognizable logo like the Coca-Cola or Pepsi logos, the changes would be minor. Perhaps then you will only change the font used or the position of the logo on your product. If your logo is less known, then perhaps you will replace it entirely. Recently Adobe Systems Incorporated, makers of PostScript, made such a replacement.

Whether you need to replace an old logo or create a new one, the process of creation is a careful one. Logos are used as a simple picture-based language to communicate the history and goodwill of a company. The golden arches of McDonald's, the red and white of Coca-Cola, and the striped blue letters of IBM are all potent international symbols. While I will never be called on to design the next logo for IBM, or even Commodore, I have been asked to develop logos for smaller companies. The same tools and tricks used for these logos work just as well for other logos. The tools I use are simply a structured drawing program and a printer. The tricks are discussed below. So let's dive in and create some logos.

Three Companies

To help us explore the many facets of logo creation, we will use three companies as examples. The first company is a small custom sewing business called A Stitch in Time. The second company is a tree trimming and removal company, Votaw Tree Service. The third company is my imaginary consulting service, Weiss Technical Services.

Each company has a distinctly different audience. A Stitch in Time has a mostly female audience and must project a soft image. Votaw Tree Service, a family-owned business, deals directly with homeowners. It needs to project an image of reliability while remaining approachable. Finally, Weiss Technical Services needs a logo that fits in with the high-tech world of computers and projects a professional image.

Type Solution

The simplest logos, and some of the most elegant, are those that simply use text. The TWA logo is a good example of a text logo. Simple text can work very well when a good match is made between

A Stitch in Time
VOTAW TREE SERVICE
Weiss Technical Services

Figure 1

A Stitch in Time
A STITCH IN TIME
A Stitch in Time

Figure 2

the font and the name of the organization. On the other hand, using the wrong font can clearly project the wrong image.

Looking at Figure 1, you can see the names of our three companies in appropriate fonts. A Stitch in Time uses Zaph Chancery Medium Italic, a cursive script font. Some script fonts are too thin and do not hold as logo type, but Zaph Chancery Medium Italic has the "weight" to hold up. By comparison, Murray Hill and Park Place are fonts that would not hold up.

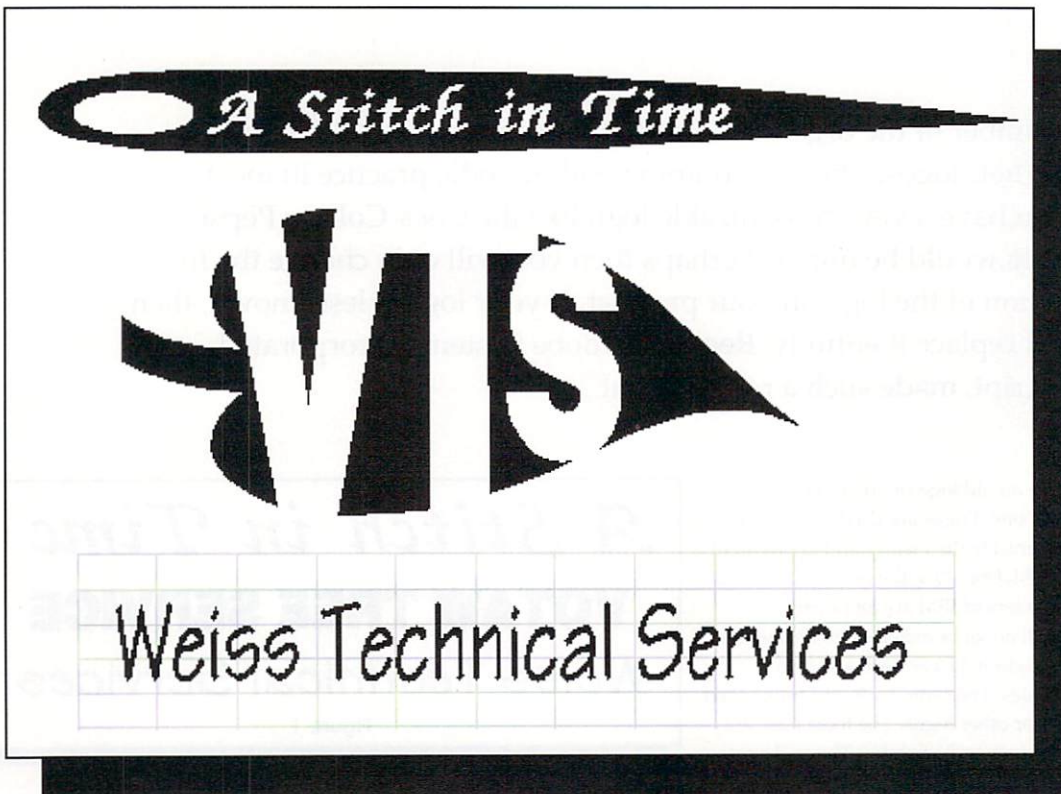
Votaw Tree Service is laid out in Helvetica Black, an extra heavy version of regular Helvetica. Helvetica Black is a good logo font as it is clean and distinctively bold. By "clean" I mean that the

design is very simple and does not have visually annoying serifs or features. By “distinctively bold” I mean that the font has been designed to look heavy.

Weiss Technical Services is rendered in Tekton. Tekton was designed to look like the stylized handwriting used on blueprints. It has an immediate recognition value as being technical, while projecting a warmer and more personal feeling.

The Wrong Type

By first trying to find a font that fits the image that the organization is trying to project, we can set a tone for the logo. The font can also then be used by itself or as a part of other designs. Choosing the wrong font can have rather negative effects—which brings us to Figure 2.



Left: Figure 3.

Right: Figure 4.

As mentioned above, A Stitch in Time is trying to project a soft image. By switching to Helvetica Black, we give the impression of sewing with steroids. Clearly, Helvetica Black is not the best choice of the three fonts for this logo. Tekton seems to be a better choice but, to me at least, presents a more male image. As the majority of A Stitch in Time’s customers are female, this does not make a good choice.

The Shape and the Text

In many logos the text is merely the starting point. In the next round of logos, we will combine type with simple graphics. Before we do that let’s take another look at logos as a group. As mentioned above, a logo is meant to be an easy way to recognize a symbol that conveys at least who you are, and possibly what you do. In the case of the IBM, Coca-Cola, and McDonald’s logos, they are recognizable but don’t tell you about the company. This is fine though, because most people instantly recognize and know the companies behind the logos. In the case of the Gerber Baby Food logo, it is easy to tell what kind of products Gerber makes. Generally logos that are

designed for the local market carry a stronger indication of what the company does.

In our case, A Stitch in Time and Votaw Tree Service are companies with a local clientele so we will want their logos to have a strong relation to what they do. For A Stitch in Time I decided to make a stylized sewing needle with the name of the company in white letters. It is important to note that while the colors in the illustration are black and white, the logo colors do not need to be black and white. Most often the black will be replaced by another dark color. This simplifies the printing process and establishes a definitive company color.

To create the logo, first draw an oval that is a bit wider and taller than the text created in the first example. Using the point

editing tools—after first converting it to a graphic in the case of *Professional Draw*—move the anchor points found at the top and bottom of the oval to the left so that they are about a third of the way along the line of text. Reshape the oval so that the right side tapers to a point and the left side is rounded with extra space to the left of the text. Set the text to white. Set the oval to black and send it behind the text. Finally draw a second white oval and place it inside the reshaped outer oval to the left of the text. This forms the eye of the needle. Group all the elements so that nothing gets lost when you move the object.

Negative Space

Negative space is something that appears to exist because of the space left by nearby objects. For example, imagine a tic-tac-toe board where the corners are filled in. Now draw it. Does it look like four blocks, or does it look like a white cross on a black square? The cross is not there, but the space makes it seem that it is. Negative space is a powerful and popular tool in logo creation.

For the Votaw Tree Service logo, I started out with a simple stylized leaf. I say "stylized" to point out that my leaf does not look much like a real leaf, but it is easy to recognize as one. Sometimes a stylized version of something, much like an artificial flavor, is easier to recognize than the real thing. Anyway, the leaf is then made to look as though the letters VTS have been cut out leaving an obviously recognizable logo. To achieve this look, first create the leaf. Its size and shape will dictate how the text will be placed.

Next type the letters "VTS" and convert them to graphic form. Fill the characters with white but leave the outline set to black. Take the "V" and place it at the left side of the leaf, so that the upper left corner of the "V" touches the upper-most and left-most part of the leaf. Resize the "V" so that the bottom of it extends just past the bottom of the leaf. Stretch the "V" so that it is about one-third of the width of the leaf.

Take the "T" now and place it so that it touches the top of the leaf and the right side of the "V." Stretch the "T" so that the bottom extends just past the bottom of the leaf. Often the top of the "T" and the edge of the "V" make a rough joining, possibly leaving a small gap. Resize or move the "T" to avoid this. Widen the "T" so that it takes up about a third of the leaf. Depending on the angle of the leaf you drew, the width of the "T" and its general placement, you may need to reshape the top of the "T" so that the space left by it is obviously a "T" shape. Don't be fooled by the outlines, as we will be getting rid of them. If it helps your placement, set the line style of the "T" to none.

Finally the "S" needs to be placed. Generally it is placed like the other letters. Depending on the shape of the leaf and the placement of the "T," you may want to tuck the "S" under the "T." It is important to note that the letters do not need to be the same size by any means. In Figure 3 you can see how I place the letters on the leaf.

The last step, as referred to earlier, is to remove the outlines of the letters. The result appears to have the "VTS" on the leaf without its really being there. This is a clear illustration of the use of negative space in a logo.

A Simple Approach

For the Weiss Technical Services logo, we will take the text from the first example and set it against a simple grid. The grid gives the text an enhanced technical image. Creating a grid is a simple process in Professional Draw, as it has a grid tool. Other programs create a grid by duplicating a line horizontally, then another vertically. Group and align the lines. Resize the group so that it covers the logo, then send it behind the logo. Finally define the color of the grid as a light gray—10% to 20%. This way the grid serves only as an accent and does not distract from the text.

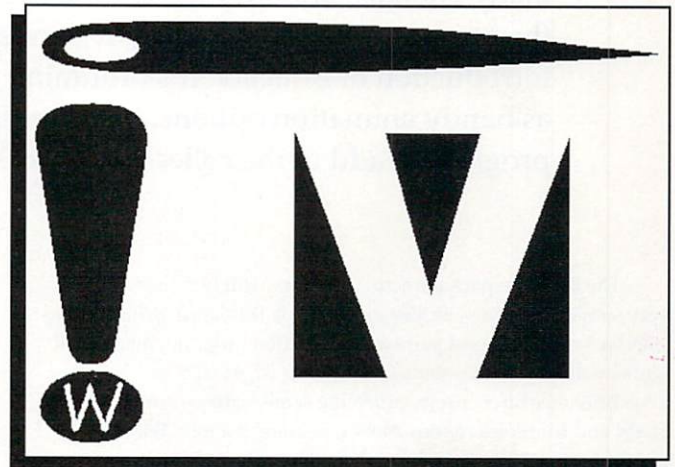
Abstract Shapes

The final types of logos that we will look at are those that are simple, perhaps even abstract, objects. This type of logo is very popular right now. The globe logo of AT&T, the "Check Mark" of the Amiga, and the GVP "World" are all good examples. As mentioned above, abstract logos tend to be used by companies with a more national or international audience. Even though our companies do not really fit this profile, let's explore these logos anyway.

A Stitch in Time is the simplest of all. It is the second logo we created for the company with the text removed. While writing this article, I explored other related designs but found that the simple sewing needle worked the best for me. To be honest though, I am not that happy with the plain needle.

The Logo for Votaw Tree Service is the most abstract of the group. The logo is simply a white uppercase "V" in Helvetica Black set against a solid block of black. Again by using negative space, the logo has a more intriguing look than simply a "V" in a box.

For Weiss Technical Services, I took a different approach. No symbol seemed to capture the function of the company. Instead I used the exclamation point which itself is a pictograph of most roman languages. An exclamation point can denote action, excitement, determination, and discovery, all things I would associate with the service. To personalize the exclamation point, I placed a "W" in the Tekton font in the point. For the exclamation point itself, I tested several fonts until I found one that was nicely rounded to give a softer, more personal feeling.



The Final Analysis

So, now that we have created three logos for each company, which do we prefer? In the case of A Stitch in Time, I feel that the text logo is the clear winner. The font is distinctive, friendly, and well suited for the clientele of the company.

For Votaw Tree Service I feel that first and last logos are good. While an abstract logo may not be a conventional choice for a local company, I would encourage the owner to consider it. The text logo is the safe bet, and projects a strong image.

Finally, for Weiss Technical Services I prefer the second logo. At this time I would want to be gaining name recognition, so the abstract logo loses out. The text-only logo I feel lacks any sort of color or distinction.

Until Next Time

Structured drawing tools are uniquely suited to the task of creating modern logos. As you can see, the process of rendering logos is not nearly as complex as thinking up the designs. The process of incorporating text in logos is much easier with structured drawing programs than with traditional tools. The downside is that most designs created like this have a distinctive "mechanical" feel.

•AC•

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danw@slpc.com

Brilliance

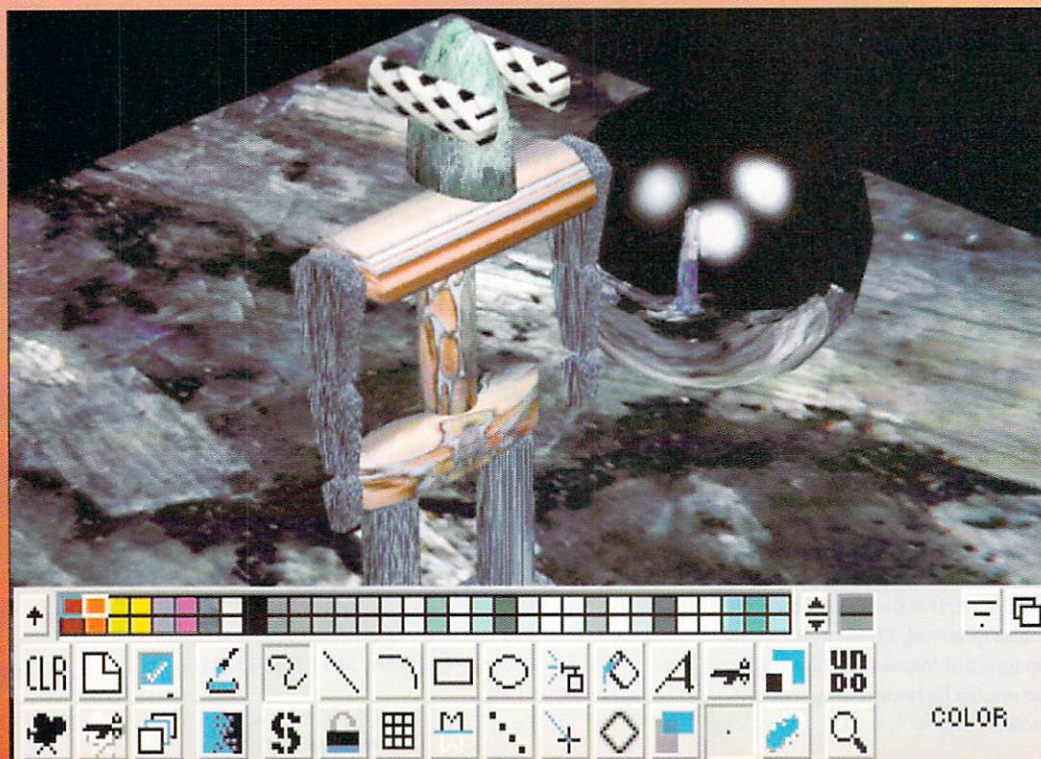
Yes, it's shipping, after much hype. Digital Creations has created many Amiga standards such as the SuperGen Genlock and DCTV. Now they try to set a new standard in standalone paint systems with the introduction of *Brilliance*. It's brimming with stylish paint features as well as handy animation options. Is it cutting edge or just another paint program to add to the collection? That's what we're going to find out.

The Brilliance package actually comes with two separate but very similar programs, Brilliance and True Brilliance. Brilliance is a standard register-based paint and animation program, meaning it works with a defined palette or 2, 4, 8, 16, 32, 64, 128, or 256 colors. True Brilliance offers pretty much the same features but runs in HAM and true color modes. Now true color is a term left open to interpretation. While it technically is not a true 24-bit paint program, it can (and does) store all information internally in true color (16 million colors), but its display only goes up to HAM8 hi-res. However this is about as close to true color on an AGA machine as

you can get without a dedicated display board. Many users cannot tell the difference between hi-res HAM8 and 24-bit.

You can install either Brilliance or True Brilliance (or both) on to a hard drive or a floppy. However, both programs do have two forms of copy protection: a serial number password and a joystick key. The serial number must be entered during the installation process and the small black hardware device must be present in the second joystick port in order to run either program. Hardware dongles, as they were once called, were used at the beginning, but they have faded away for several reasons: they inhibit the user, are

subject to getting lost, and are a general inconvenience. Obviously Digital Creations is protecting their investment but in doing so are putting their concerns first as opposed to the end user's. Electronic Arts and numerous other companies removed copy protection from productivity software years ago, and while it obviously lost them some business to pirates, they put the customer's



Left: Brilliance main interface screen in AGA HAM8 mode.

Professional Paint and Animation

by Frank McMahon

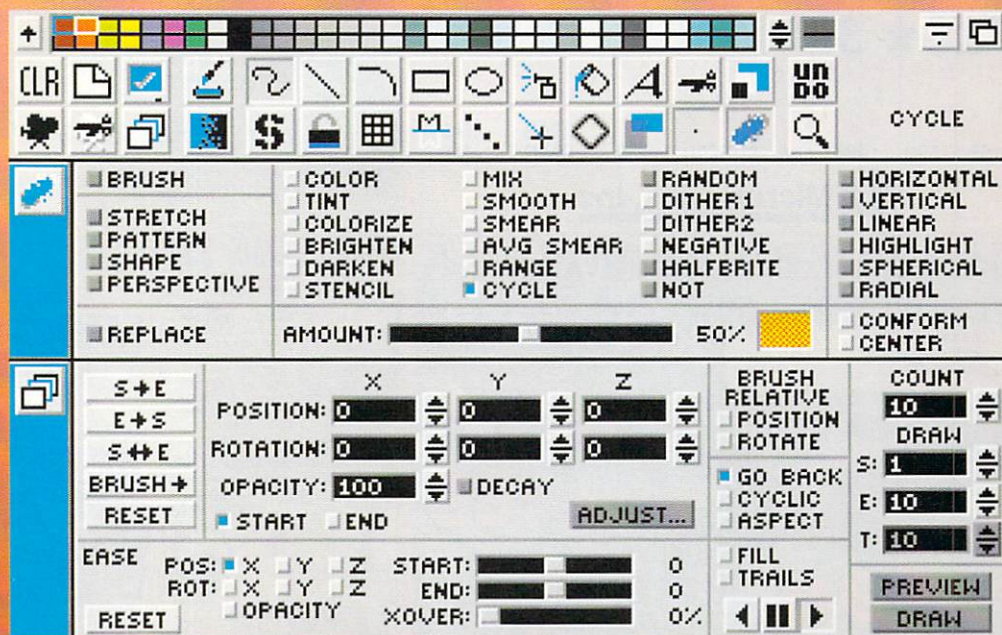
convenience first. In time I feel Digital Creations will realize that two forms of copy protection on a productivity title will hurt the progression of Brilliance more than it helps.

The program features many paint options arranged in a main menu that takes up the lower third of the screen. There are also sub-menus that appear directly beneath the main menu when activated. With many sub-menus, it's easy to obstruct the actual image you are working on but thankfully there are keyboard commands to instantly take on and off all the menus. One command not present that is included with Digital Creations' other product, DCTV, is the use of the right mouse button to toggle the menu screen on and off. This would have been perfect to include considering the large amount of menus on screen. It is an option if you have a three-button mouse, which few Amiga users have these days. Also the menus stay at a fixed resolution, so they won't take up less room and appear smaller on a super hi-res display. The palette can be toggled between showing 32 colors and 256 colors in AGA modes. In standard modes it displays the amount of colors the resolution supports. To the right is a small display that shows the current colors, background, and foreground. Also to the right is a scroll gadget which lets the user scroll through sets of 32 colors at a time as opposed to expanding the entire palette. Picking colors from the image is also possible with a standard pick command. There are numerous palette commands such as copy, swap, spread, restore, scan, and undo as well as a color cube and HSV/RGB/CMY sliders. On the far right of the main menu is a feedback area that shows items such as the current drawing mode, RGB values, X/Y coordinates, current animation frame, and a countdown that gives a numerical representation for operations that take a while to complete.

When loading pictures, Brilliance assigns each picture

to a buffer. You can load several images, and using a standard slider (or keyboard equivalents), swap back and forth. You can delete or add new buffers at any time as well as merge in front and in back. While this is an excellent feature, its one drawback is that all images must be of the same resolution and color depth. However, being able to load as many images as memory permits is certainly an excellent option and beats a standard swap screen. There are full printing options included, such as density, threshold, color correction, shade, aspect correction, smoothing, landscape, portrait, negative, mirror, center, dither (ordered, halftone, and floyd-steinberg), scaling, fraction, and more. Resolution screen settings are on a separate requester and offer all Amiga modes that your computer supports including standard resolutions and AGA modes. There are settings for overscan, resolution, HAM depth (standard or HAM8), and a toggle to allow retaining the picture when switching resolutions.

The most important option is the True Color Buffer toggle. You can either store internal graphical information as standard 15-bit or as full color 24-bit. This feature is very important because it allows loading a 24-bit (16 million color) image, painting and processing with an internal palette of 16 million, and then saving it as a true 24-bit picture. Even though you are seeing everything on screen in, say, HAM8 mode, it's 24-bit internal all through each process. This will be most important to Video Toaster users. You can now paint ToasterFrames (saved out of *ToasterPaint* as RGB files) in full screen,



Right: The menus, such as the draw mode and tweening menus, can be toggled on and off with the spacebar.



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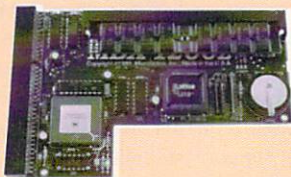
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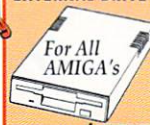
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hi-res, full 16-million color palette, without a separate display board. I had been recommending DCTV as an alternative ToasterPaint system, but Brilliance beats it out for several reasons. First of all DCTV is a display device that is composite only, with a picture that is not as sharp. In addition there have been some reported conflicts using the Toaster and DCTV on the same system—the solution is to power down completely before and after using either device. Finally Brilliance has many more features than the already loaded DCTV paint.

All standard drawing commands are featured with some new welcome additions such as Bezier curves. Bezier curves are formed using four control points, and while it takes a few minutes to get the hang of it, it allows much more flexibility than standard curve generation. The airbrush tool has options to control the flow as well as the focus of the paint stream. Text is generated with a type-in requester as opposed to just clicking anywhere on screen and typing. This option needs to be updated to incorporate both ways of text manipulation. There is support for kerning if the font you are using has that option; the manual notes that the Kara Fonts support kerning. The brush menu has eight wells for storing brushes, the neat part is you can see your brush stored in each well, ready to use. Copying to and from the Amiga clipboard is built into the brush menu. Auto Background looks at the color of the four corners of a brush you are about to pick up off the screen. If all four corners are the same color, that color is treated as a background color and won't be picked up with the brush. The Brush Distort menu is very similar to DCTV's brush options, with icons for double, halve, adjust, flip, bend, shear, and rotate. You can also add a one-pixel outline around the brush or trim the edges down. There is a Undo button as well as a Redo option. The most important factor is that it works in multiples. You can undo/redo you last action or your last 50 actions depending on memory. This is a very powerful feature and one not many (if any) Amiga programs provide.

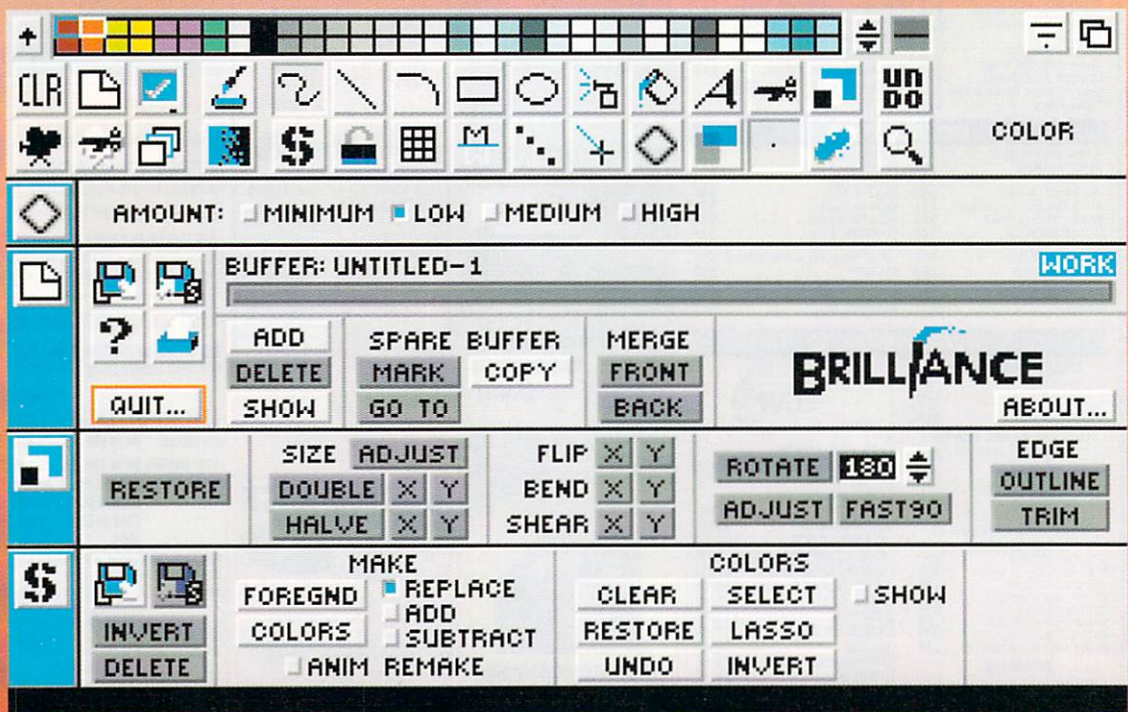
Another strong feature is Gradient spreads. A spread can have up to 128 base colors and can be set to smooth or random with various levels of dither. While a spread in the gradient menu can have 128 base colors, it actually internally can have thousands of

colors for truly beautiful imagery. Color cycling (not available in HAM) is an option as well as Double Markers in the gradient spread. Double Markers allow abrupt color changes by stacking one color on top of another in a base color gradient slot and then selecting the Hard Edge option. Stencils can be loaded as well as saved. There are actually two types of Stencils depending on what mode you are painting in. One method allows selecting individual colors to be stenciled out. This is available only in modes that have a defined palette. HAM mode is treated differently in that you choose a color and can stencil out that color and colors close to it. This is so because HAM and HAM8 modes make it difficult to select a specific color since even a solid color can vary in specific spots due to HAM color ramping. Stencil options include invert, delete, replace, add, subtract, lasso, and variance. There is also a stencil paint that works excellently. Other HAM paint programs suffer when trying to do stencils, but Brilliance's methods are first rate. Backgrounds can be fixed or locked so the user can paint and not affect what's underneath. My wish list: multiple fixed backgrounds that allow the user to swap to different levels and experiment. Anti-alias (three levels) is included so anything drawn on-screen produces smooth edges and considerably less jaggies. An icon for transparency toggles on and off. In addition there is a slider to set the exact amount of transparency.

Draw Mode allows numerous drawing options including tint, colorize, brighten, darken, stencil, mix, smooth, smear, average smear, range, cycle, dither, random, negative, halfbrite, and not. Some of the draw modes that mix, such as smooth and mix, produce the most colorful mixtures this side of an artist's actual palette. There are options for different gradient spreads like horizontal, vertical, linear, highlight, spherical, and radial. Brush drawing options include perspective, pattern, shape, and stretch. The magnify window is unusual in that once it is activated, the center bar separating the actual images and the magnified view can be moved to give a better view of either side. There are 31 levels of magnification ranging from 2x to 32x.

Brilliance features powerful animation controls which are tightly integrated to its painting options. There are icons for

Right: All menus can be stacked and cycled through. Shown here are the anti-alias, buffer, brush distort, and stencil menus.



controlling the individual frames such as moving a frame at a time in either direction, playing, play once backwards, play loop, and ping-pong. Animation speed can be anywhere from 1 to 99 frames per second. The user can set a frame amount, add/delete frames, and copy frames to different positions. It is also possible to copy multiple frames. A play range can be set to play only a specific set of frames.

There is full support for ANIM brushes including morphing between two different brushes. One of the most powerful animation menus is the Tweening menu. It allows specific positioning of brushes and automatically moves them when the user picks a starting and ending. There are numerous icons to swap the starting and the ending points or reset the brush to its original position. Moving brushes can have a trail drawn behind them (with decay); they can be rotated, can be moved in reverse, and can be eased in or out for very natural motion effects. Perspective and rotation can be adjusted easily. While there are not any new cutting-edge animation techniques, Brilliance contains many options that make creation a lot easier, allowing for more real-time control as opposed to numerical entry. One great feature is that perspective can be manipulated in real time and even the lens' focal length can be changed for dramatic "fish-eye"-style effects.

Brilliance vs. DeluxePaint

It would only seem inevitable to compare Brilliance to *DeluxePaint IV*; in fact Brilliance seems destined to be a replacement for *DeluxePaint IV*. If I could use only *DeluxePaint IV* or Brilliance I would definitely choose Brilliance. However, the challenge to replace *DeluxePaint* is a double-edged sword. Digital Creations has obviously tried to incorporate all of *DeluxePaint*'s numerous features—even the keyboard equivalents are the same—but in doing so have not broken very much new ground. All programming effort seems to have gone into creating the new standard and not into developing new features. So why use Brilliance over *DeluxePaint*? Well first and foremost is its speed. Brilliance was designed in assembly language from the ground up for the new Amigas, most notably those that feature the AGA chipset and 32-bit architecture. Its speed is especially noticeable in operations such as zoom. If you've ever used *DeluxePaint IV* in hi-res HAM8 mode, you know it is really sluggish even on a 4000/040, especially when you use the magnify mode for detail work. Brilliance on the other hand is faster and much more responsive even in super hi-res. *DeluxePaint IV* really needs to be rewritten from the ground up. How many years old is it? Since Brilliance has been developed more recently, it has the advantage of harnessing newer technology. Brilliance actually performs well on any Amiga. With newer programs requiring hard disks and 2- or 3MB it's nice to see a major release that needs only two floppies and 1MB of memory, preferably 1MB of chip RAM. Another speed advantage is support for the Opcode8 animation format. *Deluxe Paint* is still using Opcode5 which suffers from sluggish performance in higher resolutions and AGA modes.

Faster feedback comes in handy when working on superbit maps, those images which are actually a lot larger than the highest Amiga screen resolution. Although you cannot work on a 1550 X 900 pixel image in full-screen mode—you need to scroll around—you can show the full page at any time. This operation in Brilliance is pretty speedy and a lot faster than *DeluxePaint*'s method so it's actually not too difficult to work on superbit maps. The real solution is to see the whole image on-screen at once and be able to work on it in real time. However this has been a major drawback in Amiga paint programs. Only some manipulation programs such as *ImageMaster* allow this method and even then it's not exactly real

time. On other platforms such as IBM-PC, it is standard to see your whole image at once no matter how large it is (*Fractal Design Painter*, *Picture Publisher*, etc.) and this is something Amiga programmers have to begin work on. For the video user it's not so much of a problem because a resolution of 752 X 484 (standard video resolution) can fit on screen at once in hi-res. However, those creating for print and supersampling—creating a huge image then shrinking it down to video res for improved apparent resolution—are left out. This would be a feature that would be a welcome addition to Brilliance and enhance its claim as a professional paint system. Other advantages to Brilliance over *DeluxePaint IV* is its solid animation features. It quite simply does animation faster, easier, and more naturally than *DPaint*. While *DPaint* does more in the way of numerical input, Brilliance can do more in real time with numerical input as an extra bonus. It also has more painting options; it does better gradients, smoother mixing, and has color effects that *DeluxePaint IV* just doesn't offer.

Conclusion

What's wrong with Brilliance? Well not too much; however, one sore point I have is with the menu system. Its "dynamic stackable menu system" is a nice concept but once you get one or two menus stacked up, the screen gets obstructed very fast. I'd like to see more loading options for different formats. Giff or JPEG or anything besides IFF would be nice. A Toasterframe loader would be perfect. The Esc key would not always abort during certain operations. What do I like about Brilliance? Mainly the excellent speed, AGA support, and the biggest feature: full internal 24-bit support. With 24-bit you can work on 16-million color images and not lose any color information. *DeluxePaint* will load 24-bit but will save only in regular Amiga formats such as HAM8, causing color information to be lost. This is especially of interest to video users who must have the full palette for images and animations. Toaster users especially will get tremendous use out of the program and will finally be able to break free of the constraints of *ToasterPaint*.

All in all, Brilliance is an excellent paint program that is fast and friendly. It is a welcome alternative to old standbys, namely *DeluxePaint*. It took a while, but *DeluxePaint IV* has finally met its match. If you're looking for the best AGA paint program on the Amiga, look no further than Brilliance.

•AC•

Brilliance
Digital Creations
P.O. Box 97
Folsom, CA 95763-0097
(916) 344-4825
FAX (916) 635-0475
Inquiry #231

Please Write to:
Frank McMahon
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

ARexx

I find it gratifying to receive feedback from people, to learn what they are doing with ARexx to solve problems. It's refreshing to hear Amiga users who aren't "programmers" proclaim how surprisingly easy and satisfying writing code with ARexx is, but let's allow one of them say it for himself. The following is excerpted from a letter I received from Stu Casper of Taylorsville, NC.



"[Here is] a simple ARexx program I put together for a special need of mine. It illustrates how easy it is to write in ARexx.

"I do art work, mainly based on fractal orbit plots from my own programs, or my formulas in *MathVision*. These I massage in *DPaint*, *DCTV*, and/or *ADPro*. When I am satisfied, I proceed to make color changes for varied effects, accumulating a fair number of versions, all as 24-bit, or sometimes IFF files.

"These need to be crunched as JPEG to send off for photo processing, and I got tired of calling up each file into *ADPro*, erasing the '.24' extension of the file, and typing in '.jpg'. Therefore ARexx. By naming [the program] 'F2.ADPro', I do not need to go into a shell to start it, but just hit the F2 key. As you know, the most recent version of *ADPro* can call ARexx programs if they have one of the special file names. Of course, if you like to use [a] Shell [instead], you get [the results written to the Shell window].

"Please note that the *ADPro* command *getfiles* has an 'undocumented feature' that gives you quote marks fore and aft of the file name if you [select more than one file, but not if you select only one]. I checked this out with a technician at ASDG, and he agreed that it does this, but could not say why. Anyhow, my program takes care of this, as you can see."

Mr. Casper goes on to tell me about his Amiga 2000 and 1200 systems and to thank me for the work I do in this column. Well, my thanks go out to all my readers. It's great to hear from them and to share ARexx satisfaction! Let's take a look at Stu's code in Listing 1.

A JPEG Utility

Stu did a good job in his letter describing what his program, *F2.adpro*, does. When you run it, *ADPro* must be running already, and its window active; otherwise, pressing the F2 key would not launch the program. If you were to run it from a shell, you'd probably want to include some code to find or launch *ADPro* if it weren't running. After the program JPEGs the files you selected (by

Two Reader Ideas: A JPEG Utility and Pseudo Libraries

by Merrill Callaway

shift-clicking) in ADPro's GetFile requester, the compressed results are saved in the same directory as the originals. Variations on this theme would be to erase the originals, and/or copy the JPEG files to another directory, all easy modifications of Stu's code. Stu exhibits good programming habits in the way he discovered the "undocumented feature" and then followed up by calling ASDG. He then worked out a code solution to take care of the inconsistency. The most challenging aspects of programming are those that involve this sort of detective work. I also like the way Stu comments his code. Comments aren't just for others. They are for you. Six months later, you will be guaranteed not to remember what you had in mind when you wrote the original code. Commenting even your simplest programs is a great habit to cultivate from the get-go. Beginning ARexx programmers should note how Stu indents the body of his IF THEN DO ... END statement blocks. Some people like Stu put the END statement level with the IF statement, and some put the END even with the body of the IF statement. Whenever REXX programmers get together, particularly at an ANSI standards meeting, believe it or not, this is a raging controversy! Stu's method is currently the ANSI standard by a narrow margin. A minor point: Stu did not indent his DO WHILE loop. In a longer program not indenting a DO WHILE can be confusing. The only corrections I made to Stu's work were to indent the DO WHILE loop, capitalize the ARexx instructions for better readability for beginners (ARexx is case insensitive, however), and remove one unnecessary variable assignment.

Stu makes good use of several ARexx functions we have not discussed in this column before. First he uses WORDS() to find out how many files have been selected. Then he assigns each word, in its turn, of the long string containing the list of files using the WORD() function. I'm in the habit of using the PARSE instruction to nibble words off a string, but Stu's method is as good, and it is a creative use of these functions. Next, he uses the SUBSTR() function to grab all but the quotation marks in case you selected more than one file. Finally, Stu uses the LENGTH(), LEFT(), and RIGHT() functions and the concatenation operator '||' to change the suffix on the file name from '.24' to '.jpg' if necessary. At the finish are the ADPro LFORMAT commands to load an IFF file and the ADPro SFORMAT command to save in JPEG, and the DO WHILE loop repeats. Good work, Stu!

Pseudo Libraries

The next idea comes from Australia, from Arthur Tov von Heffen, an Amiga developer building a Superbase data system for the Maoris in New Zealand, where the data on remote Amigas can be updated from a central computer via ARexx, over modem/

telephone lines. Arthur and I were sitting around his fire one cold, rainy day last July (winter!), at his house near Katoomba in the Blue Mountains of New South Wales, discussing how a developer could put out commercial ARexx applications and yet protect them from copycats and code stealers. The obvious answer is to compile them using the *RexxPlus* compiler, available from Dineen Edwards Group. The main trouble with compiled programs is that the code blows up at an appalling rate, anywhere from four-to-one in a large program to 35-to-1 in size for a small program. We concluded that the best commercial market for ARexx would be to publish a series of macros for use in various Amiga applications with ARexx support. The only drawback is the amount of disk space required to store several compiled macros. A program that does nothing at all, when compiled, grows to about 7000 bytes, after all. If you published eight or ten macros, and compiled each one, you'd have too much to store efficiently.

Eureka!

It was at that point that Arthur had an inspiration. "Wait!" he said. "There's a minimum overhead duplicated in each compiled program. If, however, a group of programs could be put one after the other into a single big program *before* compiling, then you'd compile only *one* program and you'd use that overhead only once! You put the macros in series one after the other, and parse as an argument their names, which would refer to labels, much like offsets in an Amiga Library. The large program would then SIGNAL the label passed to it. Each macro would then behave sort of like a 'function' in a library. There's no logical reason it wouldn't work."

Since Arthur didn't have a current version of *RexxPlus* to work with, he left it to me to try out his idea. I found it works pretty well, in fact! You have to observe certain constraints, but you save big-time on the size blow-up compared to compiling a series of macros separately. There are two listings. Listing 2 is merely an outline of the technique and doesn't do anything other than "SAY" the arguments you feed in. Listing 3 is a combination of three macros that came with TurboText, modified so that once compiled, it acts like a "library." You "call" the big program and give its arguments starting with the name of the macro, followed by any required arguments for the macro. That's why I call this technique a "pseudo library" because it performs somewhat like a library where you call functions by name. If you combine your own set of macros for some application such as TurboText or Art Department Professional, you can compile them with the *RexxPlus* compiler to hide your original code.

Constraints in Compiling

There are a few constraints in using RexxPlus for such a task. First, you may not use the VALUE subkeyword to compute the label to which the program jumps when called. Note that Listing 2 explicitly references the labels by means of a SELECT block of statements that includes every possibility of input. My first attempt was to put in a SIGNAL VALUE label line. That worked OK in straight ARexx but gave an error once compiled in RexxPlus. Page 3 of the RexxPlus compiler manual explains:

"The Rexx Variable Interface (RVI) handles most external symbol access[es] the same as the interpreter. Only one case is handled differently, and that is when symbols are modified with the RVI from a host and are not referenced within the source. With this case the VALUE function [and also the VALUE subkeyword as we see here] always returns the name of the symbol for the symbol value, and a host accessing the un-referenced symbol receives an indication that the symbol has no value assigned to it (even when the host has assigned a value to it with the RVI). This difference can be avoided by adding a reference to the symbol or stem."

Because the RVI is not documented in the Commodore manual you received with your Amiga, let me give you part of its definition on the ARexx disk from Bill Hawes:

"The REXX Variables Interface (RVI) is a set of functions to allow an ARexx host to manipulate a macro program's symbol table. Using these functions the host can retrieve values for existing variables and install new values. There is no limit (except for available memory) to the number of variables that can be created, so the variables interface is a very convenient way to pass information to a macro program."

That implies that we need to reference the labels that the program is to jump to specifically instead of depending upon the RVI to determine their value first. This reflects one of the main differences in structure between a compiled program and an interpreted one. The second one is sequential, while the first has to have all references locked in. If we use the VALUE subkeyword with SIGNAL, the label names are "not really there" except in the interpreted version, so we have to spell out these labels explicitly before the compiled version can find them.

A Compiled Pseudo Library

Listing 3 is a group of three TurboText macros combined into one program which may be compiled. The labels are simple: R to remove duplicate lines, A to add characters to the file, and N to put numbers on each line. In the case of A, you may put in the characters to add on the same line. From the Exec ARexx Macro menu item or from the console, you may enter the program, which I've named PL.ttx from Pseudo Library, like so:

PL.ttx A Line

will add the word "Line" to the start of each line of the file.

PL.ttx R

will remove all the duplicates in the file.

PL.ttx N

will number the lines of the file.

Obviously, you could add more macros to the large macro. Then you call only *one* macro with the menu and select the different functions via the labels. Also, you *don't* have to compile the program to get it to work. You may use this structure simply because it's more convenient to lump like macros together, but if you compile it you will protect your code from snooping. The size of the uncompiled PL.ttx program is 2649 bytes. The size of the compiled version is 26,148 bytes, an almost 10-to-1 size increase. But if you compile all three original macros separately, their sizes add up to 58,208 bytes, 2.23 times bigger than the compiled version of our pseudo library. In general, the larger the original uncompiled program, the less radical its increase in size once compiled. Arthur's inference proved to be accurate. If you need to compile for speed or privacy reasons, it makes sense to combine like programs into a "pseudo library" of ARexx macros.

The RexxPlus Compiler is available from Dineen Edwards Group, 19785 West Twelve Mile Rd., Suite 305, Southfield, MI 48076-2553 (313) 352-4288.

Listing 1

```
/* This program Loads any IFF file , then
compresses and saves in JPEG format.
It deletes .24 at end of filename
if .24 is at the end,
& replaces it w .jpg
Otherwise it just appends the
extension .jpg
*/

ADDRESS "ADPro" /* the address of ADPro port */
OPTIONS RESULTS /* need to know the file
names selected. */

adpro_to_front /* if you want to see what
you are doing */

GETFILES /* "Select A few Files" */
IF RC = 0 THEN EXIT /* You can quit by
hitting Cancel */

TheFiles = ADPRO_RESULT /* a long string of all
the files selected */
NumberOfFiles = WORDS(TheFiles) /*ARexx knows
how many files you selected */
FileCounter = 1

DO WHILE FileCounter <= NumberOfFiles

String1 = WORD(TheFiles, FileCounter)

say 'String1 is ' String1 /* If you started from
the shell, you get some info */
numchar = length(String1)

IF NumberOfFiles > 1 THEN DO /* The undocumented
feature of GETFILES */
String1 = SUBSTR(String1,2,numchar-2)
END
numchar1 = LENGTH(String1)
IF RIGHT(String1,3) = '.24' THEN
String2 = LEFT(String1, numchar1 - 3)
ELSE
```



```

String2 = String1
SAY String2
String2 = String2 || '.jpg'

LFORMAT "IFF"
LOAD String1

SAY String2

SFORMAT "JPEG"
SAVE String2 "RAW"

FileCounter = FileCounter + 1

END

```

Listing 2

```

/* PseudoLibrary PL.rexx */

/* Simple outline of how to combine several
** macros into one program that you can
** then compile with RexxPlus and "call"
** like a function.
**
** The proper syntax at the prompt >
** >rx PL labelname arg1 arg2 arg3 arg4 arg5
** where labelname is one of the macro names,
** and arg1 etc. are the arguments each macro
** needs if any. This syntax is acceptable in
** regular ARexx, but the alternate use of
** parentheses is NOT, although you could
** add additional code to accept
** PL(label,arg1,arg2,arg3,arg4,arg5)
** syntax.
*/

OPTIONS RESULTS
PARSE ARG label one two three four five .
label=UPPER(label) /* insures uniform names */

/*
** SIGNAL VALUE label
**
** The above line substituted for the following
** SELECT block will work OK in ARexx but
** WILL NOT WORK WHEN COMPILED, because the
** VALUE subkeyword is NOT supported by RexxPlus,
** and will produce an error. You need to convert
** all such code to specific references as
** seen below, before compiling.
*/

SELECT
WHEN label='LABELONE' THEN SIGNAL labelone

```

```

WHEN label='LABELTWO' THEN SIGNAL labeltwo
WHEN label='LABELTHREE' THEN SIGNAL labelthree
OTHERWISE EXIT 20 /* Failure to supply names */
END

```

```

/* Macro number one */
labelone:
say labelone
say one
say two
say three
say four
say five
exit 0

```

```

/* Macro two */
labeltwo:
say labeltwo
say one
say two
say three
say four
say five
exit 0

```

```

/* Macro three */
labelthree:
say labelthree
say one
say two
say three
say four
say five
exit 0

```

Listing 3

```

/* $VER: PL.ttx A pseudo library of TurboText Macros */

```

```

/*
** A series of TurboText macros grouped in order
** to compile them efficiently. The individual
** macros were written by the authors listed.
** This grouping for compilation was written by
** Merrill Callaway, 5.8.93
*/

```

```

OPTIONS RESULTS
PARSE ARG label one
label=UPPER(label)

```

```

SELECT
WHEN label='R' THEN SIGNAL R /* remove empty lines */
WHEN label='A' THEN SIGNAL A /* add chars to lines */
WHEN label='N' THEN SIGNAL N /* number the lines */
OTHERWISE EXIT 20 /* Failure to supply names */

```



Graduated ARexx

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by Merrill Callaway

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```

END

R: /* Jump to this label */

/** $VER: RemoveBlankLines.ttx 1.0 (27.8.90)
**
** Remove all empty lines from the current document
**
** Written by Martin Taillefer
**/

```

OPTIONS RESULTS

```

SetDisplayLock ON

MoveSOF

DO UNTIL rc == 0
  GetChar
  IF RESULT = "0A"X THEN
    DeleteLine
  ELSE DO
    MoveDown
  END
END

MoveSOF
SetDisplayLock OFF

EXIT 0 /* Add this line */

A: /* Jump to this label */

/** $VER: AddChars.ttx 1.0 (14.1.91)
**
** Add characters at the start of lines
**
** Written by Martin Taillefer
** Modified by Merrill Callaway
**/

```

OPTIONS RESULTS

```
ch=one /* replaces original 'PARSE ARG ch' */
```

```

IF ch = "" THEN DO
  RequestStr PROMPT "Chars to add?"
  IF RC == 0 THEN DO
    RETURN
  END
  ch = RESULT
END

```

```
SetStatusBar TEMPORARY "Working..."
```

```

GetBlkInfo
PARSE VAR RESULT selectMode dummy selLine .

```

```

SetDisplayLock ON
SetBookmark 0

```

```

RecordMacro Quiet
MoveSOL
Text TEXT ch
MoveDown
EndMacro

```

```

IF selectMode = "ON" THEN DO
  GetCursorPos
  PARSE VAR RESULT curLine .
  IF curLine > selLine THEN DO
    temp = curLine
    curLine = selLine
    selLine = temp
    Move curLine
  END
  PlayMacro (selLine - curLine)

```

```

END; ELSE DO
  MoveSOF
  PlayMacro 0
END

```

```

MoveBookmark 0
SetDisplayLock OFF

```

```
EXIT 0 /* Add this line */
```

```
N: /* Jump to this label */
```

```

/** $VER: NumberLines.ttx 1.03 (8.6.91)
**

```

```

** Add line numbers to selected lines, or to the whole document
**
** Written by Martin Taillefer
**/

```

OPTIONS RESULTS

```

GetBlkInfo
PARSE VAR RESULT selectMode dummy selLine .

```

```

SetDisplayLock ON
SetBookmark 0
SetStatusBar TEMPORARY "Working..."

```

```

IF selectMode = "ON" THEN DO
  GetCursorPos
  PARSE VAR RESULT curLine .
  IF curLine > selLine THEN DO
    temp = curLine
    curLine = selLine
    selLine = temp
    Move curLine
  END

```

```
pad = LENGTH(selLine-curLine)
```

```

DO i = 1 TO (selLine - curLine)
  MoveSOL
  Text ""Right(i,pad," ")||': '
  MoveDown
END

```

```

END; ELSE DO
  GetFileInfo
  PARSE VAR RESULT numlines .
  pad = LENGTH(numlines)

```

```
MoveSOF
```

```

i = 1
DO UNTIL RC == 0
  MoveSOL
  Text ""Right(i,pad," ")||': '
  MoveDown
  i = i + 1
END;

```

```
END
```

```

MoveBookmark 0
SetDisplayLock OFF
UpdateView

```

```
EXIT 0 /* Add this line */
```

Correction!

In the August issue, AC 8.8, we inadvertently left out the listing for the ARexx column. We apologize for any inconvenience this may have caused. The complete listing for that article follows.

```

/* FormatSelPar.ttx This formats one SELECTED paragraph
** and then makes it fit the margins determined by the
** window boundaries. If the paragraph is indented, then
** the left hand margins are maintained.
** Select the block making sure that the left hand
** top end of the block begins at the correct column;
** and that the left hand edge of the paragraph is
** straight.
** In other words DO NOT select the part of a hanging
** indent that is "hanging" out to the left.
*/

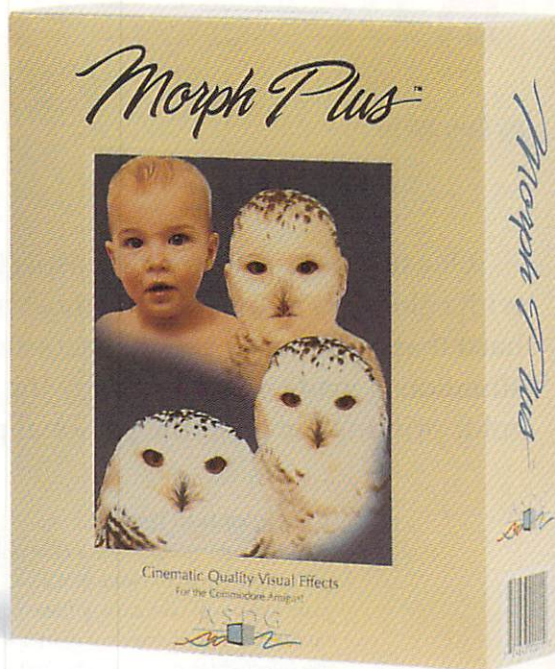
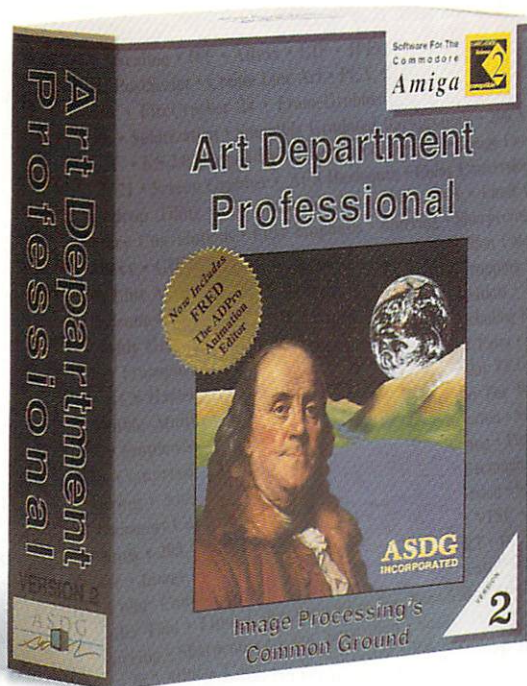
```

OPTIONS RESULTS

```
/* The following are TurboText commands */
```

(continued on page 62)

Bring Home The Best



If you're thinking about getting an Amiga® special effects or image processing product, here are some facts to consider:

- ASDG's Art Department Professional was named the "Best Image Processing Program" for 1992 by the readers of Amazing Computing Magazine and "Best Video Software" by Germany's AmigaPlus Magazine.
- American Software And Hardware Distributors and MicroPace Distributors (the two largest Amiga® software distributors in North America) cite ADPro and MorphPlus as the best selling products of their kind.
- ADPro placed third among ALL Amiga® software products on the MicroPace 1992 Top 50 Sellers List.
- The Post Group, one of the largest post production houses in the world, has used ADPro and MorphPlus in the production of special effects for the prime time TV



show Quantum Leap and for major motion pictures.

- Mark Swain, an AmigaWorld reviewer (and animator for Foundation Imaging, the creators of the special effects for Babylon 5), said, "MorphPlus produces the most realistic shape shifting special effects I have ever seen on a desktop."
- David Duberman, Executive Editor of Video Toaster User, said in a comparative review of Amiga®

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Working With Color in Desktop Publishing

by Dan Weiss

One of the most interesting aspects of desktop publishing is working with color. It is also one of the most troublesome. Working with color is so hard that most desktop publishers avoid traditional color printing. The situation is made much worse by the fact that there is little information on color printing aimed at the personal publisher.

The Color Is in the Ink

This may seem to be a silly point to make, but the color is in the ink. Too many personal publishers get caught up in the idea that since they don't have a color printer they can't do color publishing. The print shop will take care of the color for you. You specify what the colors are and where they will appear on the copy, so it does not matter that you do not have a color printer. There are two ways that the colors are selected for printing. The first is that you actually choose a given color to be used. This is common in spot color printing. The second way is by carefully combining the four colors cyan, magenta, yellow, and black using halftones. We will be looking at both methods in this article. In all cases the artwork that is provided to the print shop is in black and white, not color. This is so because you are only specifying where the ink is placed on the page.

A good analogy is a rubber stamp. The same rubber stamp can be used with red, blue, or black ink. There may be a certain meaning to the stamp if it is in a certain color, but the stamp itself has no color. The raised parts leave ink on the page and the sunken parts don't. While lithographic printing works on a slightly different principle, the idea is the same. The result is that where there is black on the page, ink will be applied.

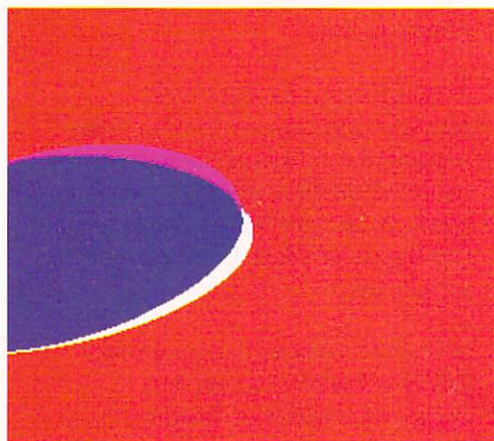
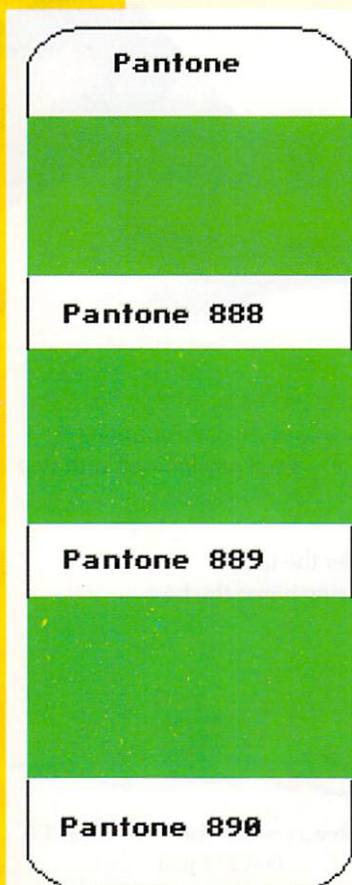
Spot Colors

The most common form of color printing is spot, also known as mechanical, color printing. The name spot color comes from the fact that a certain color is laid down in a certain spot, much like a rubber stamp. The term mechanical is given to each printing plate that is used for a different color. To see a common example of spot colors, look at a can of soda. On most Coke cans, there are three colors: red, white and black. Designers will also sometimes use the base color of silver, much as a

printer will use the white of the paper as a color. The clean classic design of Coke is an example of the color work that is well within the reach of most personal publishers. Here then are the steps you would take to create a spot color job.

Far Left: Figure 1, an example of a Pantone Color Chart.

Left: Figure 2. Problems can occur when registration is off.



How to get the most out of your color work

First look at your job. Where can color help it? Oftentimes, a newsletter will use color for the logo and certain design elements. This can make a newsletter come alive but is mostly cosmetic. In the case of manuals, a second color can be used to highlight sections and set apart key pieces of information. This is a way that color can be a powerful tool of communication. Some jobs are entirely color, as in the example of the soda can. Sometimes color is needed to exactly match a corporate or organizational scheme.

Pantone Colors

Whether the color you use is chosen or dictated, its selection will probably involve a Pantone Color Selector. In case you have never seen one, a Pantone Color Selector looks like one of the paint selector cards you see at hardware stores. In the case of the Pantone Color Selector it's not four or five colors; it's several hundred. Each color is indicated by a number rather than a name, and the colors on a given strip are very closely related but distinctly different.

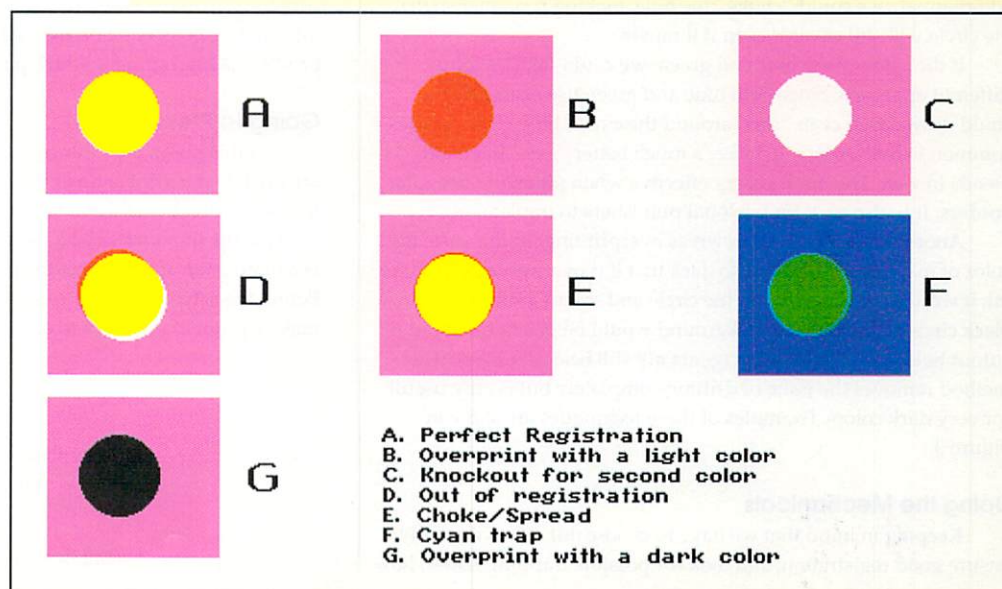
So why is a selector used? Can't you just say print it in red? What red? In printing, red can be a specific ink, or a mixture of many inks. The red of a stop sign is different from the red of a Coke can, which is different from the red of a lobster. Did you want a bright red, a dark red, a pastel red? The Pantone System also serves the important purpose of lessening the chances of communications errors. If you specify a given color, say Pantone 356, and the job come backs wrong, all you have to do is compare the selector to the work to show the mistake. Pantone takes this one step further by selling little tear-off samples that show the color and give the name. These are sent with the artwork so that there is no chance for the wrong number to be written down or used. Despite all these safeguards, the use of wrong colors is a very common printing mistake. For this reason it is always a good idea to check each step of the printing process.

Right, Figure 3, examples of registration problems and solutions for preventing these problems.

Get Registered and Trapped

In most cases using the spot color will be as simple as specifying that certain parts of the layout be in that color. Spot color parts are usually separate from the rest of the design, whether they be the logo, lines that run in the gutters or title caps that start each article. In such cases it doesn't really matter what colors are used, except for matters of taste, or how good the registration is. In the case of the soda can though, where different colors overlap, you need to consider how the colors will interact.

The key issue is that of registration. Registration is the process of lining up the different colors so that they all lie on the paper the same way. Think of this as stamping a rubber stamp on a piece of paper over and over again. Each time the stamp will be a little off the last stamping. If the registration were 100% accurate, then the image would be very sharp and very dark. In reality the image is dark in the center and light at the edges, giving a fuzzy appearance. To aid in the initial registration of your color work, you will need to place registration marks on your artwork. *PageStream* and other desktop publishing programs offer options to do this, usually in the print requester. These marks are placed outside the artwork. If you are doing a large amount of printing, multiple pages of work will be combined on to a much larger sheet of printing paper. This is known as making a signature. In this case, the registration marks you supply will be replaced by those that the printer adds to sides of the larger sheet. Your initial registration marks are still important to ensure proper placement within the signature.



Even in the best of situations, perfect registration is hard to hold. In spot color work, this is much less of an issue. As mentioned above, if a line in a column gutter moves a fraction of a point in any direction, it is hard to notice. In the soda can example, the results are more noticeable. If a piece of the artwork moves a fraction of a point, it will cover the art next to it, and leave a gap on the other side. An example of this is shown in Figure 2.

The solution to this problem is known as trapping. This is a very advanced feature that is not yet available in many desktop publishing programs but can be done manually by altering the color work. There are a few things that can be done to avoid the soda can problems mentioned. The first is to "spread" a color at a given place. This means that the piece is made slightly larger than original so that if it moves, an edge will not develop. The flip side of this is to "choke" a piece of art.

Imagine that you have a magenta square with a yellow circle on it. We can't just print a solid magenta square, then a yellow circle as this will result in a red circle on a magenta square. In printing, magenta and yellow combine to make red. So instead, a hole is cut in the magenta square to allow for the yellow circle. In the case of perfect registration, the circle and the hole should be the same size. Perfect registration is very hard to achieve so you should never count on it. Instead the circle will most likely drift off the hole and we will end up with a crescent of red on one side, and a crescent of

do we actually create spot color work? Believe it or not, this is the easy part. Spot color work for the most part is the least demanding of color printing techniques. There are exceptions of course. I have heard of 20-color printing jobs that required the highest precision, but for the most part, mechanical work does not need to be ultra precise. For the personal publisher this means that your original artwork could be done on a laser printer, or possibly on a high quality dot matrix or ink jet printer. This is assuming that your printer will generate a page that is larger than your job since the registration marks must go outside of your work's boundaries.

To create the mechanicals, create a color for each spot color that is designated as a mechanical color in the desktop publishing program. Remember that the color is in the ink, so how you define the color in the program will have no impact on the final printed color. Use the newly defined color to set the color of all the text and objects that you want in the spot color. Even if you plan to use a color other than black for your primary color, you do not have to change it from black, as the color is in the ink. After setting all the text and graphics you wish to the second color, print a proof of the work using the normal print settings. Make sure that all the text and graphics are in the appropriate colors. Next print the mechanical separations. This will result in a page being printed for each color for each page of the job. Printing two colors, black and another color, will result in two pages for every page of work. Since there is

In most cases using the spot color will be as simple as specifying that certain parts of the layout be in that color. Spot color parts are usually separate from the rest of the design, whether they be the logo, lines that run in the gutters, or title caps that start each article.

white on the other. The sliver of red will not be nearly as noticeable as the sliver of white. To solve this, we can "spread" the circle, that is, make it bigger so that if it slips it will still cover the hole. Alternatively we could "choke" the hole, making it smaller so that the circle will still cover it even if it moves.

If the colors were blue and green, we could take a slightly different approach. Since both blue and green use cyan ink, we could draw a thin cyan "rim" around the circle/hole. Since cyan is common to both colors, it makes a much better "gap" filler and blends in well. This trick is very effective when following irregular borders. It is also easy for personal publishers to implement.

Another procedure is known as overprinting. In this case, the color of ink, usually black, is so dark that if it overprinted any other ink it wouldn't matter. Using the circle and square example again, a black circle on a magenta background would be printed without a cutout hole since black and magenta are still basically black. This method removes the issue of drifting completely but is only useful for very dark colors. Examples of these techniques are shown in Figure 3.

Doing the Mechanicals

Keeping in mind that we have to choose our colors carefully, ensure good registration, and look for possible trapping issues, how

usually less of a second color used than a primary color, many of the pages may be blank or nearly blank. Some programs will not generate the blank pages. When printing mechanical separations, be sure to turn on registration marks, thus ensuring that separation information be printed on the each page. This will help you and the print shop keep straight which pages go with which.

Going to Press

At this point, if all things check out, you are ready to take your art work to the print shop. If you did your work on an imagesetter, then you will already have film. Otherwise you will need the printer to make the film that will be used to create the printing plates. This is a minor step and one that the printer can usually handle for you. Before the actual printing, you will need to have the print shop make a proof of the work to ensure that all the pages are assembled

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—ARexx continued from page 56

```

/* Find the port name of the document we are in. */
/*
** Uncomment the TRACE ?R line if you want to see pgm execute
** step by step. In a Shell, type in TCO to open
** an ARexx trace console window. Then, as each line
** of the program executes, press return to do the next
** step. This is useful for debugging programs! After
** everything is OK, remove TRACE ?R, and in a Shell
** type TCC
*/
/* TRACE ?R */
GetPort
Thisport=RESULT
ADDRESS VALUE Thisport

/*
** Get the width and height of this window, so we
** can clone the same size window in a temporary
** window used to make the format changes.
*/
GetWindowInfo
Win=RESULT
PARSE VAR Win . . . width height .
SetPrefs WindowSize width height
SetPrefs RightMargin 0 /* fit the window */
/*
** We need the column position of the start
** of the block, so we can format later.
*/
GetBlkInfo
block=RESULT

/* Assign the 4th argument to variable 'col' */
PARSE VAR block . . . col .

/* Make spaces for hanging indent amount. */
space=COPIES(' ',col-1)

/*
** Calculate the amount in pixels represented by
** the hanging indent. One 'topaz 8' character is
** 8 pixels wide. I used DPaintIV to find this out!
** Type something in your screen font in DPaint
** and then measure it in magnified mode with a one
** pixel brush. This works for monospaced screen fonts.
*/
width=((col-1)*8)

/* Cut the selected block out of the original text. */
CutBlk

/*
** Now we open a new no-name, temporary document.
** Note that its address is in the RESULT variable.
** We need to change to that address to do the next
** few commands to format the text.
*/
OpenDoc
Thatport=RESULT
ADDRESS VALUE Thatport

/* Put the unformatted text in temp doc. */
PasteClip

/* We need to know how many lines there are! */
GetFileInfo
file=RESULT
PARSE VAR file lines .

/* Put cursor at Start Of File. */
MoveSOF

/*
** Note the way we put quotes around a symbol token.
** space is simply a string of col-1 spaces.
** To make space a quoted string of col-1 spaces,
** we surround it with quoted quotes! If space were
** four (4) spaces, then this command, after ARexx
** parses it becomes literal string 'Insert " "'.
*/
Insert "' 'space'"
MoveSOF

/*
** Mark the vertical block to cut out the indents
** along the left margin: col-1 wide and lines tall.
*/
MarkBlk Vertical
MoveRight col-1
MoveDown lines
CutBlk

```

```

/* Fit the window! */
SetPrefs RightMargin 0

/*
** Size the window smaller by the amount of the hanging
** indent. Note the way we need to quote this command
** so that ARexx will parse it correctly. Width is a
** whole number of pixels, say 50. Then the command
** after parsing will be "SizeWindow -50 0". The 0
** must occur as an argument, even though we don't use
** it. We also need to make a delay while the window
** is resized. Otherwise the program will not
** recognize the smaller window! Make sure to load the
** library that contains the delay function!
*/
SizeWindow -width 0

/* Need delay function for pgm to work. */
libs.1='rexssupport.library'
/* extended functions (DOS,etc.) */
IF -SHOW('L',libs.1) THEN CALL ADDLIB(libs.1,0,-30,0)
IF -SHOW('L',libs.1) THEN EXIT 5
CALL DELAY('50')

MoveSOF

/*
** Formats paragraph under the cursor according to the
** margin settings (fit the window in this case).
*/
Formatparagraph

/* What if we get a few more lines? */
/* Find out how many after the reformat. */
GetFileInfo
file2=RESULT
PARSE VAR file2 lines2 .

/* Put the indents back into the text. */
/* It's a vertical block of spaces! */
MoveSOF
PasteClip Vertical

/* If there are more lines than at first...*/
IF lines2>lines THEN DO
  n=lines2-lines
  DO i=1 TO n
    /* Put in the leading spaces
    ** in any extra lines...
    */
    MoveDown
    MoveSOL
    Insert "' 'space'"
  END

/* However, we don't want spaces on the first line. */
MoveSOF
MoveRight col-1
DeleteSOL /* Delete to Start Of Line */

/* Now mark and cut finished, formatted block. */
MarkBlk
MoveEOF
CutBlk
/* Get rid of temp doc quietly. */
CloseDoc Quiet

/*
** Now go back to original window and paste the
** formatted text after moving window to front.
*/
ADDRESS VALUE Thisport
Window2Front
PasteClip
EXIT 0

```

•AC•

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—Aladdin continued from page 31

5. Create a Blue Cube, Phong, reflective, and render for preview.

6. Now bring everything back to the screen. Move the moon, the sphere, and the cube away from the planet so you can see everything. Do this in the Z view. We want the moon to orbit the planet, the sphere to orbit the moon by going through it at times, and the cube to orbit the sphere. Our first path is the moons path. In the Z view, make a circle that is about twice the diameter of the planet. Make it a path. Set Z rotation to -360, and movement to ON ("Last" is ON too). Move the moon out to center on the Paths FirstPoint, and assign the moon to this path. Preview for effect.

7. Turn the Isometric setting ON so you can move things with more precision. Hide everything but the moon and the sphere. Make a path that goes through the moon and around the top of the moon. Set it to 360 degree rotation on the X-axis, movement and last ON. Change Cyclic to Periodical, not Globally, and Accept it. Assign the sphere to this path after centering it on the top FirstPoint. Now bring everything back to the screen, and assign the Sphere's path to the moon's path. Preview for effect.

8. Now create a path around the sphere that is only half the width of the cube away from the sphere's surface. Do this in the Y-axis. Make this circle a path (XYZ rotation at 360, Reverse movement and last ON, and global cycles set to 2). Now assign the cube's path to that of the sphere. Preview for effect.

Without adding a background to this animation, the structure takes up only 70,416 bytes on disk. As far as rendering it goes, I would render it in DCTV3.

I hope this tutorial is opening up Aladdin 4D's wondrous lamp for you.

•AC•

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Part I: Soft Focus Images

by William Frawley

While the PC and Mac communities garner most of the software research investment capital, meaning virtually endless features and abilities for leading image-processing programs such as *Adobe PhotoShop* and *Fractal Painter*, it seems that the Amiga community is playing the perpetual game of catch-up. However, we do have a well-implemented ace in the hole. ARexx, developed by William Hawes for the Amiga, helps make up for some of those features that are currently lacking in equivalent image-processing programs such as *Art Department Professional*, *ImageMaster*, *ImageFX* and now *OpalPaint*. Because the ARexx resident process acts as a central hub for interprocess control between different programs, tasks can be accomplished with relative ease that could not be done for lack of features in one form or another in these programs alone. Indeed even a program's own ARexx macro (an ARexx script run from within the host application) can simplify a task considerably. What would take hours to do manually by attending to the computer at every step, can now be done automatically, even as you sleep, via a simple ARexx script.

Consequently, within the new paradigm of thought brought about by ARexx, we are able to integrate various programs together more efficiently and effectively, thus minimizing each program's inherent limitations. With this in mind, you can now ponder the

possibilities of integrating these image processing and paint programs in conjunction with page layout programs all under the control of ARexx. For instance, while in your favorite page layout program, you need to add a last-minute diffused photographic effect to an image. No sweat. Simply execute your ARexx macro sending the image off to ADPro or OpalPaint and returning in minutes in its new form. This is, of course, quite a simple example, but the possibilities are almost endless.

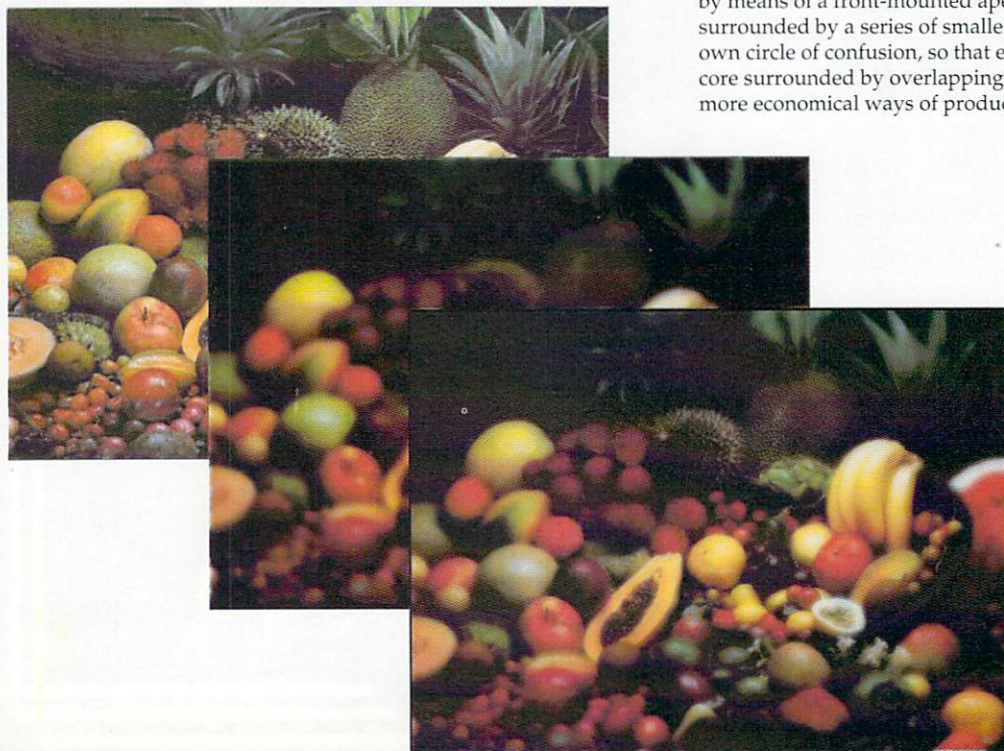
With this exposition behind us, let's now proceed with exploring a method of attaining a popular photographic effect usually created with the camera lens. We'll try this approach manually, and then automate the process with ARexx scripts.

Soft Focus Images

Exactly what is a soft focus image or diffused photograph? This effect really has meaning only when we speak about camera lenses, for it was in photography where this became popular as a type of portraiture. As M.J. Langford points out in *Advanced Photography*, a soft focus lens "images a point subject as a circular patch of light with a more intense core." This is somewhat different from an out-of-focus image, but both result from some degree of spherical lens aberration (Figure 1). The resulting condition achieved is a "luminous halo or softness of outline," an effect can also be accomplished by means of a front-mounted aperture disc with a large central hole surrounded by a series of smaller holes. Here, "each hole creates its own circle of confusion, so that every image point consists of a hard core surrounded by overlapping smaller patches of light." Other, more economical ways of producing this effect are by means of a diffusion attachment which is a "glass disc with engraved concentric rings and a clear central area," or for more localized areas of diffusion, one can merely smear translucent grease around the perimeter of glass.

In the Digital Realm

In order for us to imitate this effect on our computer, we first need an image to work on. Either scan in or create your own from your favorite paint or 3-D modelling program. It seems that the best subjects for this type of effect seem to be people, or some kind of collection of inanimate objects where the goal is to set a certain mood or atmosphere about the piece. Of course, do not be confined to what I just



mentioned; be creative. This procedure will work well if you have a number of photographs of people that you've scanned in and you want to batch process the whole lot for later transfer to film or video.

The whole process is fairly straightforward. Simply import your image into one of the many image-processing programs available, blur it several times, and then composite the original image back onto this severely blurred one. For varying degrees of "softness," merely alter the percentage of transparency of the mix between the two images, the original and the blurred one. Pretty simple, eh? I've found that in programs such as ADPro and OpalPaint, the optimum number of times that a full-screen image should be processed through the blur operators is between 10 and 15. The number of times to blur an image is directly proportional to its size, so a full-page image works well when blurred at least 20 times. When compositing the original back onto its blurred self, a transparency setting of 50% seems to yield the best balance between the two images. Keep in mind that these are not absolute figures, and that the parameters (blur # and transparency %) should be adjusted depending on the nature of the image, that is, color, size, etc.

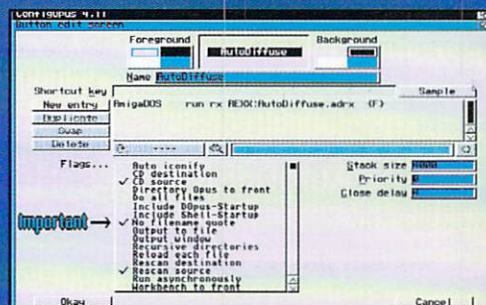
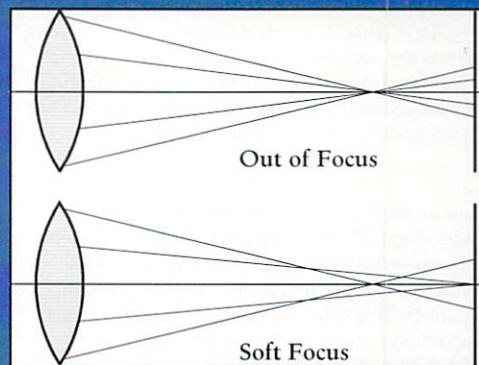
Realizing that this process is not exactly identical in effect to a soft focus lens, there is a more flexible means in OpalPaint where we can come close to simulating the grease-filtered lens situation as described earlier, where the diffusion increases near the outside perimeter of the lens/image. In OpalPaint, once we've completed the first half of the process, that is, copying the original image to a spare page location and blurring it the appropriate number of times, all we need to do is to create a Radial Transparency Gradient that will allow, via Textured Rub-Through, more of the blurred image to be composited near the edges and less near the center of the original image. The key to success in this technique is in properly arranging the Transparency Gradient Tags along the Gradient Bar. Since we want a slightly diffused patch in the center of the image, place a Transparency Tag with a value of about 50% on the left end of the Gradient Bar and a Tag with a 10% value on the right side. Translated: When a Radial, Gradient-type Rectangle with a Rub-Through Texture is drawn over the entire image, half of the blurred image will be composited with the original near the center and most of the blurred image will be composited toward the edges of the image. Thus, the "diffusion" increases near the perimeter, leaving the central area less disturbed, making for a more realistic soft lens effect (Figure 3). However, the limitation is that you can perform this process only in OpalPaint on an image no larger than the size of the visible screen, even with an ARexx script. This process can be seen numerically in more detail in the OpalPaint macro in the section of the script flagged as "TRANSPARENCY GRADIENT Set-Up."

Obviously, the easiest way to get a diffused image is as said before—perform a global blur and composite. This is what will be accomplished in the ARexx script entitled AutoDiffuse.adrx, a multiple-file batch-processing script that can be run from either Directory Opus or an AmigaDOS shell. On the other hand, the first listing is an OpalPaint macro that will process a single screen-sized image in the manner of greased-glass diffusion.

About the Scripts

Both listings are fairly well commented and should be easily understood. The OpalPaint macro entitled DiffusePhoto.oprx can be activated within OpalPaint by either hardwiring it to a function key in the ARexx Control panel in the Extras menu, or starting it via the Enter ARexx Command window called from the hotkey sequence R-Amiga A. Once the Title window is acknowledged, the macro will query the user for a Diffusion Degree parameter, which signifies the overall strength of the soft lens look.

It is basically the same with AutoDiffuse.adrx, an ADPro script meant to process multiple files automatically, but utilizing the blanket diffusion technique and allowing for saving the new file(s) in IFF24 or JPEG format with the option of also deleting the original file. This ARexx script can be started from within DOpus by drag-selecting a list of files to be processed and hitting the gadget



assigned to Run this script (Figure 2), or via a CONSOLE by executing rx with the script name as the argument. Please note the comments pertaining to Magic File Requester when starting this script from a shell. With some minor adjustments, this script could be converted into an ADPro macro assigned to one of the function keys.

Conclusion

One final word about soft focus images. To add a more dramatic effect, consider manually blurring the highlights, via lens diffraction, by linearly smearing those parts of the image where light is the brightest such as candles, metal, etc. Then perform the diffusion process (Figure 4). This diffused image technique comes very close to achieving results similar to that of a dedicated soft focus camera lens; with AREXX, the entire process becomes automated. Of course, one need not own ADPro to accomplish this task. ImageMaster and ImageFX will work just as well with minor adjustments made to the AREXX code. Thanks to the number of fine image-processing programs available for the Amiga and a fully implemented AREXX, we can maintain competitiveness with the PC and Mac platforms for image manipulation.

AutoDiffuse.adrx v1.2

```

/*****
/*
/*      AutoDiffuse.adrx  v1.2      by William Frawley
/*
/*
/*
/*  Creates diffuse-type images (soft-blurred) using ADPro
/*  and/or Directory Opus. Provides option of saving
/*  file(s) in 24-bit IFF or JPEG format.
/*
/*
/*
/*  From Console: rx REXX:AutoDiffuse.adrx
/*
/*
/*  From DOpus: Drag-Select files to be processed. Click
/*  DOpus gadget that is configured to run
/*  this AREXX script using {F} as executable
/*  string parameter to send files as an
/*  argument string.
/*
/*
/*  NOTE (from CONSOLE):
/*
/*  This program uses ADPro's GETFILES command which calls
/*  the System file requester for Shift-Clicking multiple
/*  files to be processed. However, if you are using the
/*  "Magic File Requester", you must either disable it or
/*  uncomment the appropriate code in the internal function
/*  labelled MFR: as MFR is incompatible with the GETFILES
/*  command.
/*
/*
/*
/*  NOTE (with DOpus):
/*
/*  "No Filename Quote" flag in DOpus gadget MUST be set!
/*
/*
/*  Gadget's command string set as AmigaDOS should look
/*  like this:
/*
/*      Run rx REXX:AutoDiffusePhoto.adrx {F}
/*
/*
/*  "Run" precludes the overhead of an extra shell process
/*  similar to using the rexx server's additional host
/*  port 'AREXX' which supports asynchronous commands.
/*
/*
*****/

OPTIONS RESULTS

SIGNAL ON SYNTAX      /* On signal SYNTAX, exit script */

PARSE ARG FileList

clear_top='A0'X      /* "Delete Line" command to variable */
Dopus_Flag=0        /* Initialize DOpus Flag to zero */

/*****
/*
/*
/*  Is user running DOpus? If so, use that for interface.
/*
/*
*****/
IF SHOW('P','DOPUS.1') THEN Dopus_Flag=1
ELSE NOP             /* NOP is "No Operation" instruction */

/*****
/*
/*
/*
/*      Main Program
*****/

```

```

/*
/*****
/*
/*  Show title and continue? */
CALL Verify

/* Run ADPro */
IF ~ADPro_Locate() THEN CALL No_ADPro
ELSE DO
  IF Dopus_Flag=1 THEN CALL TopLine('** ADPro Running **')
  ELSE SAY '** ADPro Running **'
END

/* Get Diffusion parameter for conversion to Transparency */
Diff_Text='Enter Diffusion Degree (1-10)'
IF Dopus_Flag=1 THEN DO
  Diffusion=Dopus_GetString(Diff_Text,'5','Okay','Cancel')
  Transparency=60-(Diffusion*5)
END
ELSE DO
  Diffusion=ADPro_GetNum(Diff_Text,'5','1','10')
  Transparency=60-(Diffusion*5)
END

END

/* How many times should we blur the original image? */
Blur_Text='Enter # of times to Blur original image:'
IF Dopus_Flag=1 THEN DO
  BlurAmount=Dopus_GetString(Blur_Text,'10','Okay','Cancel')
END
ELSE DO
  BlurAmount=ADPro_GetNum(Blur_Text,'10','1','30')
END

END

/* Delete original files? */
Delete_Text='Delete original file(s)? '
IF Dopus_Flag=1 THEN CALL Sound('Alarm','1')
/* Sound DOpus alarm for delete requester */
ELSE NOP
Delete=Request(Delete_Text,'Yes','No')

/* Save file(s) in IFF or JPEG format? */
Format_Text='Save in JPEG format? (Default is IFF24)'
WhichOne=Request(Format_Text,'Yes','No')
IF WhichOne=1 THEN Format='JPEG'
ELSE Format='IFF'

/* If JPEG, then get quality parameters */
IF Format='JPEG' THEN DO
  Boost_Text='BOOSTed Quality?'
  Boost=Request(Boost_Text,'Yes','No')
  IF Boost=1 THEN QualType='BOOST'
  ELSE QualType=''
  Qual_Text='Enter JPEG Quality (1-100)'
  IF Dopus_Flag=1 THEN DO
    QualLevel=Dopus_GetString(Qual_Text,'75','Okay','Cancel')
  END
  ELSE QualLevel=ADPro_GetNum(Qual_Text,'75','1','100')
END

ELSE NOP

/* If not running DOpus, Get files from ADPro's file
/* requester. Then strip off double quotation marks
IF Dopus_Flag=1 THEN DO
  QuoteList=ADPro_GetFiles()
  FileList=ParseList(QuoteList)
END
ELSE NOP

**** Parse FileList argument into individual ***
**** file-array elements ****
n=1
DO WHILE FileList ~= ''

/* Separate individual files (w/ path) from filestring */
PARSE VAR FileList OldFile.n FileList

/* Find position marker of last '.' before extension */
PeriodPos=LASTPOS('.',OldFile.n)

/* Trim off filetype extension from filename by
/* placing all alphanumeric characters between the
/* first position marker and the one designated as
/* the last period into the target variable shown.
/*
/*
/*      EX: MyImage.B&W.iff24 >>> MyImage.B&W
/*
/*
/* Remember, =variable acts as a variable position
/* marker, whereas (variable) signifies a variable
/* pattern.
/*
PARSE VAR OldFile.n 1 BaseName.n =PeriodPos

/* Append proper extension to Base filename */
IF Format='IFF' THEN NewFile.n=BaseName.n'.diffuse.iff24'
ELSE NewFile.n=BaseName.n'.diffuse.jpg'

```

(continued on page 77)



ROOMERS

by The Bandito

[These statements and projections presented in "Roomers" are rumors in the purest sense. The bits of information are gathered by a third-party source from whispers inside the industry. At press time, these rumors remain unconfirmed and are printed for entertainment value only. Accordingly, the staff and associates of Amazing Computing cannot be held responsible for the reports made in this column.]

Commodore Update

When we last left our patient, the prognosis was rather grim. Layoffs, debt load, poor sales, and resignations of key employees are all bad signs. But there is some cause for hope: new products with good potential, a slenderized payroll, continuing interest in Amiga products from the video market. The market seems to have adopted a wait-and-see attitude about Commodore. The stock's been holding steady at about 3 1/2. Apparently the gloom over Commodore's debt load and downsizing is offset by the possibility of strong CD32 sales and continued sales of the A4000 line into the video industry. Will Commodore get better or worse? No one can say for sure right now. But things are so bad for Commodore's finances that the Value Line investment service has lowered the company's financial strength rating to a C, and Commodore's safety rating is the lowest possible ranking used. Value Line predicts that Commodore will lose about \$9.25 per share for 1993.

Among the most difficult problems for Commodore to deal with is the decimation of the dealer channels and of Commodore's U.S. sales force. Commodore has never been very good about supporting their dealer

network, and now it's hard to see how they can improve with only a handful of people working with dealers. This could also put a crimp in their plans to sell lots of CD32s in the U.S., if they can only sell them through their existing Amiga dealer network.

Commodore would certainly like to place CD32s in all the major retail chains like Toys R Us, but from what the Bandito hears, Commodore's having a hard time convincing those stores to stock CD32. Apparently the retailers are just a wee bit skeptical of Commodore's ability to market and support this new machine, particularly in the face of competition from Sega, Nintendo, and all those 3DO manufacturers. The Bandito can't really understand how the retailers could change their opinion of Commodore's marketing ability. After all, the Bandito has held only one opinion about Commodore's marketing for years.

While we're talking about Commodore's current situation, let's find out about the real estate problem. Problem, you ask? Well, many years ago when Commodore was a consumer electronics giant, they built a vast facility near West Chester. But after the last seven years of downsizing, the facility is just a little bit too big for their needs. How much is too big? Let's take a closer look.

There are now between 40 and 60 employees working out of Commodore's 585,000 square foot headquarters near West Chester (for comparison, they once had over 600 employees working out of there). Let's see, that works out to about 10,000 square feet of space per employee. Seems to be a bit more than needed for your basic desk and a chair, even if you have a separate desk for

your computer. The Bandito wonders if each employee gets 10,000 square feet of office space to work in; that would be an interesting employee perk. You could easily have amenities like a basketball court and a sauna, and plenty of parking space built right into your office. Heck, why not add a few bedrooms and a kitchen so you never have to leave work? Well, it's unlikely Commodore will be doing anything like that for any of its employees, except maybe for Mehdi Ali, who seems to get a pretty cushy deal for someone running a company with losses that exceed half its sales volume.

At least Commodore is trying to do something about their white elephant; they're trying to sublease most or all of their headquarters for the going rate of \$3.95 a square foot. The Bandito hasn't heard if that price includes old inventory of checkered red and white balls. Good luck, Commodore. Hey, maybe NewTek needs a big new facility; maybe you should give them a call.

Commodore Goes Vertical

So what will, what *can* Commodore do? Commodore is on the verge of making its computer division into a vertical market hardware company, servicing the video market. (To some observers, this has already happened, and it's just taken this long for Commodore to notice it.) New product development is already moving in that direction; working with NewTek points the way to that. Look at where all the development is going on in Amiga hardware and software among third-party developers. At Amiga shows, the vast majority of the booths are devoted to video and related stuff (audio

for video, graphics for video, acceleration, storage, etc.).

Even Commodore's own development efforts point in this direction. Are the new AAA chip sets designed to make better game machines? No, they're designed to make better video applications possible (like real-time animation). The virtual disappearance of the A600 and CDTV are signs of the same thing; nobody's buying the Amiga to play games on anymore. The A1200 is essentially a low-cost graphics workstation.

Development of other areas once important to the Amiga has virtually ceased. Game development is dying for the older Amigas, and it's basically stillborn for AGA Amigas, despite some support from European developers. Which means that the Amiga's market niche as an entertainment machine is dead, replaced at the low end by the Super Nintendo and the Genesis (action gamers) and at the high end by the PC (simulation and adventure gamers). Commodore still hopes to revive their game market with CD32, of course, but the Bandito remembers what happened with CDTV. Both platforms had initial interest from developers, but once CDTV came out and didn't set the world on fire, interest in developing for it disappeared.

The verticalization of Commodore is also driven strongly by the trend in Europe, where the Amiga has been fading fast as a consumer computer, being replaced by the PC. Even European developers are abandoning Amiga development. Commodore has one stronghold left: video, and that's rapidly being assailed, too, by new devices for Macintosh and PC. But Commodore is strong

in the video market, and they can defend that position.

Commodore's marketing dollars are also going towards the high end, rather than the consumer. Notice the complete lack of a major campaign over last Christmas. Their magazine advertising has focused on presentations and video.

So what does this mean for the future of Commodore? It will become a very different company, one way or another. The Bandito predicts that Commodore will continue to shrink and to narrow its focus. Commodore will try to focus on two product areas: CD32 and the Amiga. Oh, they may continue to try to sell the C-64 in developing nations (Eastern Europe, for example), but this

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someone else eager to succeed in that market. Commodore may cut and run to Europe, say one set of rumors, abandoning the U.S. market entirely. This may be, but the Bandito doesn't think so. At this point, Commodore can't really afford to ignore any chance for a sale, and the U.S. market still is the stronghold of their most loyal fans. So what should Commodore do?

Play the Amiga Card

The Bandito has suggested this idea before, but it's worth raising the issue again given Commodore's current situation. Put the Amiga's custom chips on an add-in card for PCs. Sell the Amiga OS with it, as well as create special DOS and Windows extensions to access the power of the Amiga chip set. You could even put a Zorro bus extender on the card so that other Amiga cards could be plugged into it. Of course, you'd want to make it so that the Video Toaster card could plug in, too, which means making the video slot available somehow. Think of the potential market size; Amiga developers would suddenly have tens or hundreds of times the sales opportunities they had before.

What price point could Commodore hit? Well, if they didn't have to include a CPU, the Amiga Card could easily be less than \$500. After all, they sell an Amiga 1200 for \$699, and that includes a disk drive, keyboard, power supply and other components. Heck, go ahead and include a 68030 chip and some RAM if you want; you could still sell the thing for \$600 and make a lot of money. With a little work, you could use the Amiga chip set as graphics accelerators for

probably won't last long. The PC clone business should disappear soon, since they're not really funding development any more, and besides, Commodore just isn't focused enough to compete well in that dog-eat-dog market. Commodore will focus any effort they have left on the Amiga as a video computer, and that might enable them to survive as a fairly large company (say \$500 million in annual sales), with some strong growth prospects in that field. As video becomes more important as a communication medium, in part driven by the Video Toaster and similar gear, the market for the Amiga video computer will grow, too.

Or, in trying to remake the company in such a radical fashion, Commodore may well falter. In that case, chances are good that they will be bought out by some competitor, or

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Windows, which that operating system really needs, and thus give people a lot of reason to buy the card. Get the price point down into the \$300 range (imminently possibly given what they expect to sell CD32 for), and you're competing head-on with Windoze accelerators.

Think of the benefits to the Amiga user. You could still access all your favorite Amiga programs while becoming truly compatible with PC software—no complaints from the purchasing department about buying an Amiga! And there'd still be good reasons for Amiga developers to keep making Amiga software.

But then Commodore would lose the chance to make a profit on keyboards and disk drives and cases and the like. Well, the profit margin on those goodies isn't so hot these days, with the intense price competition in the PC market. Where's the money at?—in software and in items that nobody else can produce, like custom chip sets. Commodore might lose some Amiga box sales, but they'd more than make that up in Amiga Card sales. So why not give it a shot, Commodore? What have you got to lose?

Amiga Gets Tough

Are you tired of hearing about all the great games that your friend can get for his Genesis or his Super Nintendo that you can't have on your Amiga? Well, now you can strike back with the hottest game from the arcades: *Street Fighter II*! Yes, it's coming for the Amiga from US Gold. Now you don't have to feel left out because your friend has a Super Nintendo and can play *Street Fighter* at home. The Amiga version is just as cool as the Super Nintendo version. Take that, PC gamers. No way that could happen on a PC

Clone; without animation support it just doesn't work. Well, maybe if you like playing in slow motion all the time.

Entertaining Numbers

The entertainment software sales numbers are in for 1992 (from the SPA). PC/MS-DOS: \$267 million; Windows \$29.6 million; Macintosh \$31.4 million; Other \$13.6 million. Other includes Apple II, Amiga, Atari and anything else. Rather sad, isn't it? Amiga software sales have truly fallen off the cliff. You can hardly find Amiga software anywhere except at Amiga retailers, that is, if you can find an Amiga retailer. Mail-order is the last place available to get Amiga software in any kind of variety. We may be relying on gray-market European software soon, because there will be very little American

Nintendo to regain some mind share among the customers and counter the ferocious PR blitz put on by 3DO and Sega. After all, the Sega Genesis is outselling the Super Nintendo these days, and 3DO is getting all the interest from the CD-ROM fans. The market couldn't care less about Nintendo's CD-ROM box. So the ailing videogame king is trying to create some momentum in the minds of consumers. Catch a clue, folks: it's not gonna work.

Toaster Future

What would become of the Video Toaster if Commodore ever stopped making Amigas? NewTek has been steadfast in their determination not to try and make a version of the Video Toaster for other platforms, in part because the Toaster relies heavily on the Amiga's custom chips. In order to do a Toaster card for a PC Clone or a Macintosh, NewTek would essentially have to duplicate an Amiga's functions on the card as well as the Toaster chips. So it's not likely at all that we'll see a Toaster for another platform. But again, what would NewTek do if there were no Amigas to put Toasters in? Simple. They could license the custom chips they needed from Commodore, which Commodore has done before. After all, if Commodore were to discontinue the Amiga, they should be happy to get some money from someone for all their investment. But don't worry; there's no chance that Commodore will drop the Amiga. After all, what else would they do instead? Make PC clones? That's not a real profitable business these days, you know.

Now, with the Video Toaster 4000, the future of both the Amiga and the Video Toaster seem more solid than ever. At last the Video Toaster is available for the top of

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development, nor will anyone be bothered to create American packaging for Amiga titles. Better learn to like those horrible English manuals...

SiliNintendo

Silicon Graphics and Nintendo are teaming up to produce a 64-bit RISC-based videogame, slated for the end of 1995. This SiliNintendo is supposed to sell for about \$250, and to produce really amazing 3-D graphics. At their press conference, they were showing demos on Indigos and Onyxes. As if what you see on \$10,000 to \$20,000 worth of hardware represents what you'll get on a \$250 videogame console. Maybe they've hired the same PR firm that Atari's been using. Or perhaps they're just hallucinating in 3-D these days. The Bandito thinks this is just another obvious attempt by

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Commodore's product line, and it has enough new features to send the potential competition back to their design labs for another try.

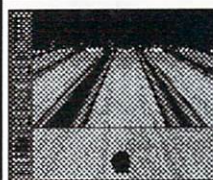
Video Toaster 4000

This was the hit of the NAB video show. And as if that wasn't enough, NewTek copped a special Emmy for the Video Toaster technology. Way cool, as the NewTekers would say. If you've been living under a rock somewhere and haven't checked out the VT4K, here's some of what it offers: New full-color animated transitions, true 3-D effects, full user control over transition speed, real-time animation playback from LightWave, and a lower price tag than the old Toaster.

NewTek also sponsored a pavilion full of Toaster add-on products for NAB, and there were some interesting ones. The Bandito likes the Y/C Plus, which offers Y/C inputs and outputs (S-Video to you non-videodroids out there) from the Video Toaster. Innovision Technology, the folks who did *Broadcast Titler*, offers *Montage*, a 24-bit CG and image compositing software that offers real-time font sizing. If you're still waiting for a new *ToasterPaint*, this package may be for you.

Also cool is the 3-D digitizer from Visual Surface Technology; this device works out of the Video Toaster. It uses a laser to scan items placed on its special turntable (there are two sizes available; the largest offers 18" radius, 12" height). The device has a surface accuracy of 1/16 of an inch, with angular accuracy of 1/100th of a degree. Samples are usually taken in four-degree increments; each sample requires 4MB of hard drive space (!). So a full 360 degree scan requires a lot of space. Each sample takes some processing time, which varies according to your CPU, but usually about 70 seconds. A complicated model might require four to five hours of post-processing, but you can run this overnight. (If you want to get in touch with these guys, VST is in Kansas City at 913-764-5102).

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now a subsidiary of Silicon Graphics. And the Toaster Screamer is aimed squarely at SGI's video production market. You know, those are the folks whose computers did much of the *Jurassic Park* work. Looks like Spielberg will be switching over to Video Toasters for more than just TV shows in the future.

The Bandito has an even more interesting question to ask: Will the new Toaster be its own box? After all, if you've got such a hot box running LightWave renderings, wouldn't it be nice to have all the Toaster functions running out of there? Maybe you wouldn't have to rely on Commodore's marketing efforts any longer. Only time will tell. It'd be interesting to see a box with only one of those RISC chips and a Toaster built in, selling for around four grand, running rings around everything else on the market...

•AC•

Toaster Screamer


Somewhat more recently, NewTek again rattled the industry with a product announcement. They call it the *Toaster Screamer*, and the name is apt. This box plugs into the Video Toaster and is designed to do one thing really well: render LightWave images. How good does it do this? This baby hums along at 600 MIPS, which is twice the power of a Cray-1 supercomputer. This is many times faster than a Silicon Graphics workstation, for instance. Oh, and how much does it cost? You can drive one home for less than \$10,000.

Here's the Bandito's favorite part: the Screamer uses four blazingly fast R4400 RISC CPUs, running in parallel. Ironically, those chips are manufactured by MIPS, which is

PSST!

Do you know of any rumors, gossip, scuttlebutt, or just plain dirt? If so, become a professional tattletale and pass these tidbits on to:

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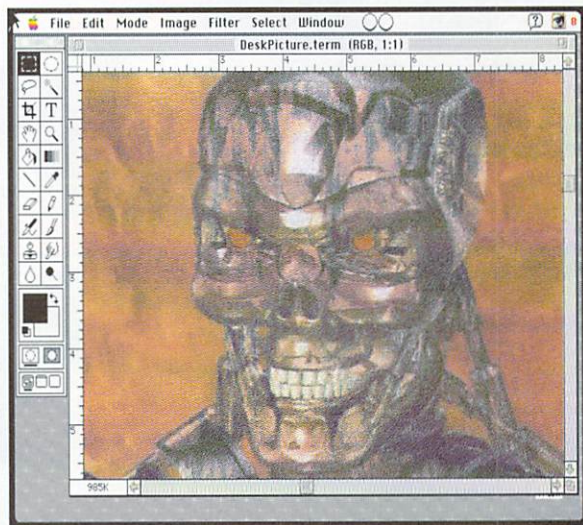
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EMPLANT running Adobe Photoshop in full color!

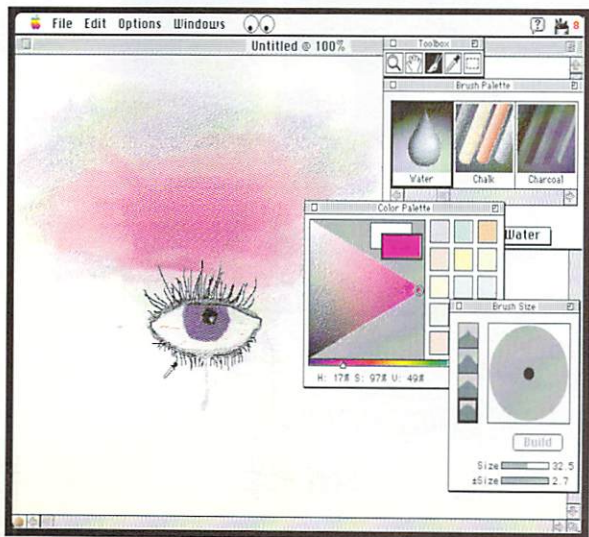
They said it could never be done ...

Like ALL of the emulation modules that will be released for use with the EEMPLANT hardware, the MAC IIx emulation module **MULTITASKS** with the Amiga's operating system! You can simply pull down or flip screens and get back to the Amiga side! ...and the MAC stays running at full speed! Speaking of speed...A 25Mhz A3000 runs the MAC IIx emulation exactly twice as fast as a real MAC IIx! Just imagine the speed of an '040 Amiga! The emulation runs ALL known MAC programs, and in FULL color, (if the program supports color)...and all while **MULTITASKING** with the Amiga!! (MAC IIx emulation module *requires* an accelerated Amiga - 68020 or 68030/68040 w/MMU) and 256K MAC ROMs (not provided). Not all emulation modules will require accelerated machines. Four megabytes of memory is recommended for use with System 7.

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THE VIDEO SLOT!

by
**Frank
McMahon**

The programmers at Unili Graphics, creators of the excellent *Broadcast 3D Fonts*, made a promise a while back to create an easy method of generating 3-D text. Now that promise has been fulfilled. *Wave Writer* utilizes the companies' Broadcast Font line-up to create a quick and easy method of making 3-D titles in the form of *LightWave* scene files.

Wave Writer for LightWave 3-D

The program comes with five disks, two of which are a Math Coprocessor version and a Math Library version of the program. Novice users unfortunately would probably not know which version to use, because there is no reference either on disk or in the printed manual as to which should be installed. The remaining



A fast and easy way to create logos in LightWave 3D

three disks will update Unili Graphics *Broadcast Fonts Master Pack* to version 2.0 so that they will work with the Wave Writer program. The Master Broadcast Fonts Master Pack is not required to use the program, although it's a great product to have because there are six typefaces included: Aristocrat, Advantage, Bordeaux, Easel, Garden, and Penguin. If nothing else, this package is worth getting just for the six new Broadcast fonts! The manual starts out with a quick tutorial for those who can't wait to get creating, probably most of us. After that it, goes into a basic reference section including an appendix that discusses "dead-keys." They are keyboard combinations like alt-N that allow special characters like copyright symbols and accents. The manual also lists font examples of all six included typefaces.

The program basically works by allowing the user to first type in a text phrase. It can be a single word or a group of words. This is accomplished by using the Add Text requester. Each phrase is assigned a Phrase Name that allows each logo, even though it is identical to a previous one, to have a unique name. Once you've typed in a phrase and selected one of the Broadcast Fonts, you can begin to have fun altering the position of the letters. By the way, the requester to type in the phrase is a standard Workbench 2.0 string requester and supports the dead-key (as well as double dead-key) combinations mentioned earlier. It's certainly an excellent bonus to have all those special characters available in 3-D as opposed to just a standard vanilla set. The Layout Style option has several position controls including horizontal, sine wave (Z- or Y-axis), and arch (Z- or Y-axis). A sine wave is similar to a sideways "S," in that it curves up and then curves downward. The height of the sine wave can be controlled by adjusting the amplitude setting.

However, you must have several letters for this to work properly; a logo with only three fonts is not going to curve up and curve down very well. In fact as the overall length of the phrase increases so does the relative height of the wave. The Anchor Positions requester lets the user choose the location of

the rotation axis for effects where the actual letter is rotated. This can be done for the whole word, each word in a phrase, or each letter in a phrase. Also, you can select letters individually, by word, or by the entire phrase.

The Arc Amount is for choosing the amount of degrees the arch of the letters tilts; degrees of 360 (or more!) are allowed. Spacing commands allow setting spacing symmetrically by word or by individual letter. The same goes for Rotation; it can either be by letter or by word. Extrusion is available with options for putting on front and back faces as well as depth. There is bevel support in the form of straight bevel or curved in/curved out bevel which creates three bevel segments as a rounded edge.

The real power comes when you have designed your phrase and begin to get it ready for the Video Toaster's LightWave 3D. You can create many options for your scene file right in Wave Writer! You can set the render mode (wireframe/quick/normal), resolution (lo-res/medium/hi-res/etc.), object color, diffusion, specularity, reflection, transparency, reflection, and refraction index all from requestors inside Wave Writer and the settings are saved along with your scene file, which you would put in your Toaster scene drawer after specifying your object path. One nice feature is that there is a special requester dedicated to object—meaning your text phrase—color that features many built-in colors. Want a shade of white? How about azure white, ghost white, ivory, snow, floral white, seashell, honeydew, white smoke, old lace, cornsilk white, or linen white? All have their numerical representations displayed. For example, linen white is Red-250, Green-240, and Blue-230; and can easily be changed, modified, saved, or deleted at any time. I had as

Left: LightWave image for news program rendered by author using Broadcast Fonts and Wave Writer.

Right: Wave Writer's main text input screen.

WaveWriter 1.03 (MCP) 7/1/93 Copyright 92,93 Unili Graphics

Add 3D Phrase

3-D Phrase Information

Phrase Name (must be unique)

3-D Text

Layout & Anchor Placement

Layout Style	Sine Wave - Z	Amplitude	0.10
Anchor Positions	-CC- --- -CC-	H Spc	0.00 0.00 0.00 M
		L Spc	0.00 0.00 0.00 M
		L Rot	0.0 0.0 0.0

Extrusion Option Settings

Extrude Type Eront ☒ Back ☒

Align ☒ Center Depth Max Shift

Bevel Type

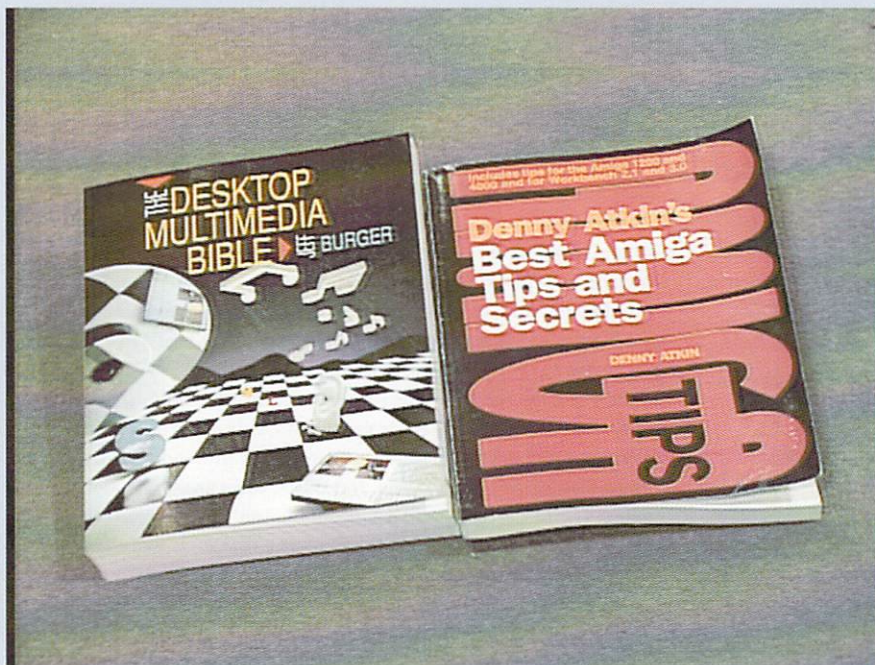
Bevel Width Bevel Depth

much fun creating colors as creating phrases in the main section of the program! Finally, lighting can be adjusted from Wave Writer as well including options for creating a new light, deleting an existing light, changing light types (ambient, front, side, and back), position, color, intensity, shadow casting, and using a target as a parent. Once all settings are in place the final file can be saved out, loaded into LightWave and rendered; it is as easy as it sounds. It's important to mention that Wave Writer is not a 3-D rendering program; it only sets up a 3-D scene for LightWave.

command and then follow it with the regular command. For example put this in your start-up sequence:

```
alias ss ed s/startup-sequence
```

Now you only need to type "ss" from CLI to edit your startup-sequence! This works out great for adding assign commands since a lot of video programs (such as *Caligari 24* and *Art Department Professional*) need assign commands added to the startup-sequence



Two excellent books that contain a wealth of information for the Amiga desktop video producer.

All in all, Wave Writer is an excellent program that makes creation of flying logos very easy. It can be used for exact spacing, or if you truly feel dangerous, you can experiment with the various rotation/placement commands such as rotation and arch. It makes great use of the already excellent Broadcast Fonts family; you'll get even more use out of them with this program. Any bad points?—only that it's getting tough to review any product from Unili Graphics because I can never find anything wrong with them. I'm sure this problem will continue in the years ahead from this fine company.

Best Amiga Tips and Secrets & Desktop Multimedia Bible

People wonder how some Amiga users get to be real expert power users and the answer is quite simple: read. Read everything you can get your hands on. Magazines. Books. Program instruction manuals, probably a difficult pill for many to swallow. A few books came my way recently and I thought I would mention them since they are relatively inexpensive and contain a wealth of information for Amiga desktop video users. The first is an Amiga book by Denny Atkins titled *Best Amiga Tips and Secrets*. It's 233 pages jammed with the best tricks, methods, and tips for any Amiga user from Workbench 1.0 to Workbench 3.0 AGA users. Although some of the "secrets" are really just methods from the Workbench manual, some are more obscure and many are extremely handy. For example I discovered the alias command for simplifying long typed-out CLI commands. Just type ALIAS followed by the two or three letter

to find their "parts". The book has many chapters all arranged in specific categories including: The Amiga 500, Disks, Workbench, CLI Tips and Tricks, Printer Tips, Hardware, CD-ROM/CDTV, Emulators, Monitors, Amiga Video, AGA, Telecommunications, and more. Hint and "Secret Tips" books are widely available on other platforms and it's a welcome addition to the Amiga community. This book features pages of tips that an Amiga video producer could benefit from so I highly recommend it.

Another great book is *The Desktop Multimedia Bible* and I couldn't think of a better title for this effort. I can safely say if you read this book cover to cover, all 614 pages, you'll know more about the elements that comprise multimedia than 98% of the tech heads you associate with. This book is so well arranged and so comprehensive that it is a necessity for anyone who wants to understand how to bring all the various elements (sight, sound, etc.) together on a computer platform. The book discusses all major computers including the Amiga, but the bulk of the material is designed to break down items such as graphics, audio, video technology, CD-ROM, and storage into easy-to-digest reference material. I would warn that the book reads more like a textbook and gets very technical at times, but it intrigued me and the last thing I like to read is a technical textbook. It has a wealth of valuable information.

•AC•

Please Write to:
Frank McMahon
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

—Digital continued from page 68

```

/* Load, Process and Save image */
Proc_Text='** Processing file '
IF DOpus_Flag=1 THEN CALL TopLine(Proc_Text,OldFile.n)
ELSE DO
  SAY
  SAY Proc_Text||OldFile.n
  SAY
  END
CALL Load(OldFile.n)
CALL Process
CALL Save(NewFile.n)

/* Delete original files if user responded yes */
IF Delete=1 & DOpus_Flag=1 THEN DO
  CALL Sound('Beep','1')
  CALL TopLine('** Deleting file.. ',OldFile.n)
  ADDRESS COMMAND 'C:Delete' OldFile.n
  END

IF Delete=1 & DOpus_Flag=0 THEN ADDRESS COMMAND,
  'C:Delete' OldFile.n

ELSE NOP

n=n+1          /* Increment file name node. */
END           /* Repeat loop for next file. */

/* Quit ADPro */
ADDRESS 'ADPro' ADPRO_EXIT

/* Display Finish message, then EXIT */
IF DOpus_Flag=1 THEN DO
  CALL Sound('Beep','3') /* Audio-Visual finished signal */
  CALL TopLine('**** Finished! ****')
  END
ELSE DO
  SAY
  SAY
  SAY '**** FINISHED! ****'
  END

EXIT

/*****
/***** INTERNAL FUNCTIONS *****/
/*****
/*****

/*
/*      Greetings and Felicitations!
/*
/*
/*****

Verify:

Title='AutoDiffuse v1.1, by William Frawley'
IF DOpus_Flag=1 THEN DO
  ADDRESS 'DOPUS.1'
  /* Initialize DOpus requester button text */
  Status 26 Set 'Okay'
  Status 27 Set 'Cancel'
  Verify Title
  IF RESULT=0 THEN EXIT
  END
ELSE DO
  SAY
  SAY
  SAY
  SAY '**** AutoDiffuse v1.1, by William Frawley ****'
  SAY
  SAY
  SAY
  SAY 'Press [RTN] to Continue, ANY KEY to Abort'

  PARSE PULL ok

  IF ok == '' THEN EXIT 20
  END

RETURN

/*****
/*
/*      Locate and determine if ADPro is running
/*
/*
/* Insert proper path to ADPro if not assigned as ADPro:
/* Open ADPro behind other screens.
/*
/*
/*****
ADPro_Locate:

IF -SHOW('P','ADPro') THEN DO

```

```

ADDRESS COMMAND 'Run ADPro:ADPro BEHIND'
ADDRESS COMMAND 'SYS:Rexxc/WaitForPort' 'ADPro'
IF RC=0 THEN RETURN 1

ELSE RETURN 0
END
ELSE RETURN 1

/*****
/*
/*      Could NOT open ADPro
/*
/*
/*****
No_ADPro:

Err_Mess='** Error Opening ADPro **'
IF DOpus_Flag=1 THEN DO
  ADDRESS 'DOPUS.1'
  TopText Err_Mess
  EXIT 20
  END
ELSE DO
  SAY
  SAY Err_Mess
  SAY
  EXIT 20
  END

RETURN

/*****
/*
/*      Close ADPro and EXIT
/*
/*
/*****
Close_ADPro:

ADDRESS 'ADPro'
ADPRO_EXIT
EXIT 20

RETURN

/*****
/*
/*      Get number from user via ADPro requester
/*
/*
/*****
ADPro_GetNum:

PARSE ARG Title,Default,Min,Max
ADDRESS 'ADPro'
ADPRO_TO_FRONT
GetNumber Title Default Min Max
IF RC=0 THEN EXIT RC
Number=ADPRO_RESULT
ADPRO_TO_BACK

RETURN Number

/*****
/*
/*      Get string from user via DOpus requester
/*
/*
/*****
Dopus_GetString:

PARSE ARG Title,Default,LButton,RButton
ADDRESS 'DOPUS.1'

/* Change requester's buttons */
Status 26 Set LButton
Status 27 Set RButton
GetString Title Default
IF RC=0 THEN CALL Close_ADPro
String=RESULT

RETURN String

/*****
/*
/*      ADPro GetFile(s)
/*
/*
/* Get list of files to process via ADPro's file
/* requester by SHIFT-Clicking for multiple files.
/*
/*
/* NOTE: "Magic File Requester", which replaces ASL file
/* requester, is incompatible with ADPro's GetFiles
/* AREXX command (which uses the ASL f.r.). If you
/* are using MFR, and started this via the console,
/* uncomment the following code to disable MFR,
/* carry out GetFile process, then reactivate MFR.
/* Bummer but currently necessary.
/*
/*
/*****
ADPro_GetFiles:

/*      { Uncomment if using MFR }

```



```

**
** CALL MFR
**
** SAY
** SAY '          Hit RETURN twice to proceed...'
** SAY
** SAY '1st deactivates MFR quit requester.'
** SAY '2nd continues with AREXX script.'
** SAY
**
** PARSE PULL Dummy
*/

CALL ADPro_Locate
ADDRESS 'ADPro'
ADPRO_TO_FRONT
/* Double-quotes necessary if spaces between words */
GetFiles '"SHIFT-CLICK files to be processed.."'
IF RC=0 THEN CALL Close_ADPro
QuoteList=ADPRO_RESULT
ADPRO_TO_BACK

/* { Uncomment if using MFR }
**
** CALL MFR
*/
RETURN QuoteList

/*****
/*
/*      Disables & Enables MAGIC FILE REQUESTER
/*
/*
/*      Set path to MFR
/*
/*
*****/
MFR:
ADDRESS COMMAND 'RUN' '>NIL:' 'SYS:WBStartup/MFR' 'INSTALL'

RETURN

/*****
/*
/*      Parse Quotes
/*
/*
/*      Creates a new string variable NewList by parsing
/*      OldList (QuoteList) to remove the double-quotes
/*      surrounding each file name created by ADPro.
/*
/*
*****/
ParseList:

PARSE ARG OldList

NewList=''
Count=WORDS(OldList) /* Count # of files (w/paths) */
SAY
SAY 'There is(are) ' Count ' file(s) to be processed.'
SAY
SAY
i=1
DO WHILE i<=Count
QuoteFile.i=WORD(OldList,i)
/* Pulls off ith file */

NewFile.i=STRIP(QuoteFile.i,'B','"')
/* Pulls off double quotes at Both ends of file string */
SAY i ' ' NewFile.i
NewList=NewList||NewFile.i||' '
/* Creates new FileList string without the quotes */
i=i+1
END
SAY
SAY

RETURN NewList

/*****
/*
/*      Get YES or NO from user
/*
/*
*****/
Request:

PARSE ARG Title,LButton,RButton

IF Dopus_Flag=1 THEN DO
ADDRESS 'DOPUS.1'
/* Change requester button's text */
Status 26 Set LButton
Status 27 Set RButton
Request Title
Answer=RESULT
END

ELSE DO
ADDRESS 'ADPro'
ADPRO_TO_FRONT
OKAY2 Title /* ADPro's Boolean requester */

```

```

IF RC=0 THEN Answer=0 /* CANCEL selected */
ELSE Answer=1 /* OKAY selected */
ADPRO_TO_BACK
END

RETURN Answer

/*****
/*
/*      Load Image
/*
*****/
Load:

PARSE ARG LoadFile

ADDRESS 'ADPro'
ADPRO_TO_BACK
LFormat 'UNIVERSAL'
LOAD LoadFile

RETURN

/*****
/*
/*      Process Image
/*
*****/
Process:

ADDRESS 'ADPro'
ADPRO_TO_BACK

/* Set counter variable and # of times to blur image.
/* The amount shown below seems to be sufficient.
/* If final image not diffuse enough, set BlurAmount to
/* higher number, or raise the Diffusion Degree input
/* parameter. You may also vary the type such as Blur
/* or Gaussian. These must have an increased BlurAmount.*/
i=1

/* "Blur" loop */
DO WHILE i<=BlurAmount
OPERATOR 'Convolve' 'ADPro:Convolutions/blur5x5' 100 0
i=i+1
END

/* Composite Original image onto Blurred image with
/* Transparency % converted from Diffusion variable. */
LOAD OldFile.n 0 0 Transparency

RETURN

/*****
/*
/*      Save Image
/*
*****/
Save:

PARSE ARG SaveFile

ADDRESS 'ADPro'
ADPRO_TO_BACK
SFormat Format
IF Format='IFF' THEN SAVE SaveFile 'RAW'
ELSE SAVE SaveFile 'RAW' QualType QualLevel

RETURN

/*****
/*
/*      Display Text in top line of Dopus window
/*
*****/
TopLine:

PARSE ARG TopString,File

ADDRESS 'DOPUS.1'
TopText clear_top
TopText TopString||File

RETURN

/*****
/*
/*      Sound alerts in Dopus
/*
*****/
Sound:

PARSE ARG type,duration
ADDRESS 'DOPUS.1'
j=1
DO WHILE j<=duration

```



```

INTERPRET type /* Evaluate expression/variable */
/* and execute as normal program */
j=j+1 /* statement. */
END

RETURN

/******
/*
/*          Syntax/Error subroutine
/*
/*
/*          If error, close ADPro and EXIT
/*
/******
Syntax:

IF Dopus_Flag=1 THEN DO
  ADDRESS 'DOPUS.1'
  TopText '*** ERROR('rc'): line('SIGL')' errortext(rc)
  END
ELSE SAY '*** ERROR('rc'): line('SIGL')' errortext(rc)

CALL Close_ADPro

```

DiffusePhoto.oprx v1.2

```

/******
/*
/*          DiffusePhoto.oprx v1.2 by William Frawley
/*
/*
/* Automatic Diffused Photo Maker Macro for OpalPaint.
/* Assign this macro to function key in OpalPaint. Will
/* only work with images that are Screen size or smaller.
/*
/*
/* NOTE: Upon activation, if Workbench pop's to the
/* front because OpalPaint opens a console
/* called "OpalPaint Rexx Output", simply move
/* this screen to back and continue.
/*
/******
OPTIONS RESULTS
ADDRESS 'OpalPaint_Rexx'

/******
/*
/*          Preliminaries
/*
/*
/******
SaveSetUp
Panic
AskBool 'Diffused Photo Maker v1.1, by William Frawley',
'\n\nThis will alter current image.'
If Result=0 then EXIT

/******
/*
/*          Ask for Degree of Diffusion for resulting image
/*
/*
/******
AskInt 1 5 3 'Enter Degree of Diffusion (1-5)... \n',
'\nDefault is 3.'
If RC=5 then EXIT
LowTrans=65-(Result*5) /* Convert to Low TransGradTag % */
UppTrans=25-(Result*4) /* Convert to Upp TransGradTag % */

/******
/*
/*          Ask for Number of times to blur original image
/*
/*
/******
AskInt 1 40 20 'Enter # of times to blur image (1-30)... \n',
'\nDefault is 20 for Full-Screen Images.'
If RC=5 then EXIT
BlurAmount=Result

/******
/*
/*          Find Current Page number and make duplicate
/*
/*
/******
CurrPage
OriginalPage=Result
ClonePage /* Clone original page's settings to new page */
OpenPages /* How many pages our currently open? */
BlurPage=Result /* Assign blur page # to variable */
CopyPage OriginalPage BlurPage /* Copy contents of orig
/* page to new work page */
PickPage BlurPage /* Make work page our current page */

/******
/*
/*          Blur SparePage
/*
/*

```

```

/******
SetSpare 1 Blur 100 /* Load Blur operator into first */
/* spare slot
SetDrawMode 19 100 /* Activate Blur Mode at 100% weight */
AskBool 'Ready to process...\n',
'\nOKAY to Continue, CANCEL to Quit.',
IF Result=0 THEN EXIT
Busy /* Display busy pointer */
DisplayStatus 'Blurring...' /* Text to Status window */
i=0
DO WHILE i <= BlurAmount /* Begin Blur loop */
  Zap /* Apply process to whole image */
  i=i+1
END

/******
/*
/*          Return to Original Page and set Rub-Through parameters
/*
/*
/******
PickPage OriginalPage
SecondaryPage BlurPage /* Make BlurPage Secondary Page */
RubDirection 0 /* Set rub direction to Secondary>Curr */
RubMode ABSOLUTE
SetDrawMode 1 /* Return to PAINT mode */

/******
/*
/*          Set TEXTURE options for RUB-THROUGH
/*
/*
/******
TextureType RUBTHROUGH NOTILE
Texture ENABLE

/******
/*
/*          TRANSPARENCY GRADIENT set-up for RUB-THROUGH operation
/*
/*
/******
ActiveGrad 1
GradType RADIAL
ClearTransGrad
TransGradTag 0 LowTrans
TransGradTag .25 LowTrans-5
TransGradTag 1 UppTrans

/******
/*
/*          Get Page Size for upper and lower corner coordinates
/*
/*
/******
PageSize
PARSE VAR Result W H

/******
/*
/*          Composite Process
/*
/*
/*          Transparency Gradient Fill will Rub-Through more of
/* the blurred image near the edges and less near the
/* center of the image.
/*
/*
/******
DisplayStatus 'Compositing' /* More text to window */
FillMode GRADIENT

/* RUB blurred image onto our original image using Solid */
/* Rect with transparency gradient between the two pages */
SolidRect 0 0 W H

/******
/*
/*          Wrap it up!
/*
/*
/******
NotBusy /* Restore crosshair pointer */
RestoreSetUp

ADDRESS COMMAND 'C:SAY' 'Attention. I am finished ',
'processing your diffused image.'
Okay "Process Complete! Save New Image."
EXIT

```

•AC•

Please Write to:
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Recently, Commodore elected to consolidate their stateside operations, thus making them financially stronger. One of the first steps taken was to reduce their inventory in both the U.S. and Canada. In doing this, select distributors were given the opportunity to purchase sizable amounts of new and factory refurbished parts at extraordinarily low prices. This section contains new and refurbished items, which are indicated by the letters "N" or "R" to the left of each product. Refurbished does not mean used or pre-owned, but simply factory remanufactured. Some units may have minor imperfections such as scratches or, in the case of some monitors, faulty front doors. With the exception of a minor imperfection, if any, most everything appears "mint" and of course everything carries a full 90 day warranty. This is your opportunity to purchase Amiga/Commodore parts & equipment at up to 80% less than an authorized dealer pays.

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The World of...

Many new Amiga products and a few surprises highlighted a successful event.

The second annual World of Commodore Amiga in Pasadena was once again held at the Pasadena Center. Both established and brand new Amiga developers were demonstrating a host of newly introduced products. While official attendee figures are unavailable at press time, it appeared to many that the show attracted slightly fewer attendees than last year. However, from the activity seen at the show and Amiga users' comments on the electronic networks, anyone who missed this event missed a valuable opportunity. This was not only an opportunity to see and discuss new hardware and software with Amiga developers, but it was also an opportunity to view the many directions in Amiga computing and to feel a new *electricity* from Amiga developers.

During the three-day event, Commodore and other exhibitors ran a steady assortment of seminars. Each keynote address and special presentation was filled and people were turned away. According to one Commodore executive, every seminar was either filled or had at least 200 people in attendance. Sessions included a presentation of *Brilliance* by famed Amiga artist Jim Sachs, Full Motion Video presentations by Commodore's Jeff Porter, as well as product demonstrations of Centaur's *OpalVision*, RGB's *AmiLink CIP*, Axiom's *WaveMaker* and *Anim Workshop*, GVP's *ImageFX* by Warner Brothers animation director—Rusty Mills, GVP's *CineMorph*, Toaster 4000 and *LightWave 3D*, as well as Sunrize Industries' Studio 16.

CD³²

Commodore started Friday's festivities with a press announcement introducing CD³² to the North American market. Commodore executives expressed their excitement and hopes for the new machine. Jim Dionne, President of Commodore U.S., stated "We feel confident it (CD³²) will become our next 64." He went on to say that 20,000 CD³² units per week were being produced at Commodore's plant.

Lew Eggebrecht, Vice President of Engineering for Commodore International, stated that there would be 75 CD³² titles available by Christmas. He went on to say, "One of the most important points is that we were able to get this kind of support without investing a single dime in the software development—in other words encouraging or subsidizing. That, we think, is a very good endorsement of the capability of the (CD³²) product."

Mr. Eggebrecht went on to say, "We are planning a CD peripheral for the 1200 and also for the 4000 that will allow the software development of CD³² to also play on our standard home computer and video workstation environments." Another CBM executive suggested

that the A4000 CD³² peripheral could be available as early as December.

Mr. Eggebrecht announced, "Also we need software enhancements to support that capability (CD³²) and we will very shortly be introducing DOS 3.1. A DOS 3.1 which supports the same software capabilities that were

On CD³²

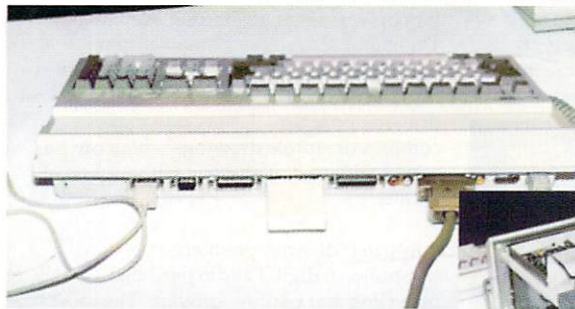
"We feel confident it will become our next 64."

**Jim Dionne, President
Commodore U.S.,**

added to CD³². In other words, this will support SCSI capabilities for CDs, also support file systems for CDs, and also support all of the libraries that were special for the game environments."

In regard to enhancements and other activities, Mr. Eggebrecht was very enthusiastic about Commodore's offer to assist third-party developers in creating the other peripherals needed for A4000 and A1200 machines that CBM has neither the time nor the resources to create. He stated, among other things, that CBM is interested in licensing their network developments to third-party developers to create new products.

How was CD³² received? One CBM exec was upset that he only had a few CD³² units for the show. Apparently he had been offered as much as \$1,000 for each CD³².



Warm and Fuzzy Logic's controversial LightRave allows users to create, render, and display LightWave 3D images without a Video Toaster.



Amiga Product Introductions

LightWave 3D users were given a surprise by a new Amiga company, Warm and Fuzzy Logic. According to their representatives, LightRave is a custom hardware module that emulates all of the Toaster functions needed by LightWave 3D. It enables any Amiga to run LightWave 3D without requiring a Video Toaster. LightRave adds a suite of professional features never before available to LightWave users. It will render images faster than a Toaster-equipped Amiga, as no lengthy display time to the Toaster is required.

Rendering is no longer limited to the Toaster's composite display. LightRave now allows LightWave 3D to render directly to the most popular 24-bit graphics cards, such as IV24, Retina, OpalVision, DCTV, and Firecracker 24. LightRave also makes LightWave 3D fully functional for PAL users. LightRave also promises to support other display boards.





GVP had both a display area for new products and a theater for major demonstrations as well as sneak previews of *Animaniacs* which used ImageFX in its production.

GVP showed off two hot new items, the TBC Plus and EGS-28/24 Spectrum. The TBC Plus is an internal broadcast quality video processing card. It operates as an infinite window time-base corrector using 8-bit professional quality all digital video signal processing. TBC Plus includes a full SMPTE/EBU time-code receiver-generator operating in all VITC/LTC formats and standards. It includes a three-channel video input switcher in composite and Y/C. The TBC Plus is a normal Zorro II Amiga Card that can be installed in any open Zorro slot of the Amiga 2000, 3000, or 4000.

The EGS-28/24 Spectrum is a high performance and high resolution graphics board that will take any Amiga 2000, 3000, or 4000 to AGA resolutions and higher. This entry-level graphics board provides performance and power at an affordable price. The Spectrum is capable of displaying video resolutions as well as workstation-like resolutions such as 1120x832. It also adapts automatically to either a Zorro-II or Zorro III bus and supports Workbench 2.04, 2.1, and 3.0 to take maximum advantage of its environment.

In GVP's theater, attendees watched demonstrations of GVP products as well as a sneak preview of *Animaniacs* from Warner Brothers. Rusty Mills, *Animaniacs*' director was also on hand to discuss his work with ImageFX on the project. Mr. Mills also introduced his video instruction tapes for ImageFX.

Magic Lantern by Terra Nova Development is a program designed to create, edit, and display delta-compressed animations. It takes as input IFF picture and sound files created from other sources and creates animations that run on various frame buffers in up to 24-bit color. Once an animation is

created it can be edited. All editing functions can be accessed through a Workbench-like interface. *Magic Lantern* is now available from Terra Nova Development for \$95.

Designer Objects Vol. One, also by Terra Nova Development, is a three-disk set of high quality 3-D objects. The set includes all of the objects and image maps needed to create a complete diner from the 1950s. There are booths, seats, a counter with stools, dishes, utensils and place settings; a pay telephone and a restroom, and a Wurlitzer 1015 jukebox. The price is \$47.50.

SoftLogik demoed *PageStream 3.0*, a completely new version of their popular desktop publishing program. Adding a comprehensive list of features that users have requested, *PageStream 3.0* openly challenges its competition. The new program can be used for everything from writing simple letters to publishing complex books with multiple sections and chapters. It also has new trapping and plate control features.

PageStream 3.0 now supports the PANTONE Color System. It uses this industry standard to provide printed color accuracy with guaranteed results. In addition to PANTONE support, *PageStream 3.0* offers support for spot and process color, and CMYK, HSV, and RGB color modes. *PageStream* will be available in the early fall for \$395.

SoftLogik also demoed two Amiga favorites, *TypeSmith 2.0* and *Art Expression*. *TypeSmith 2.0* can load, save, edit, and generate bitmap screen fonts. For the first time, users can create bitmap fonts from scratch manually or automatically create a bitmap version of an existing outline font. *TypeSmith 2.0* is now available from SoftLogik for \$199.95. SoftLogik also displayed their *Art Expression* structured drawing program, designed to make complex or simple drawings which can be scaled and used at any size without loss of quality.

SunRize Industries premiered version 3.0 of its Studio 16 digital audio hard disk recording and editing software. The most significant new feature of Studio 16 3.0 is the highly intuitive time-line-based cue list that makes audio production as simple as point and click. Other major new features include: automatic fades and cross fades, automatic mixing, external MIDI mixer support,

SMPTE chase, assignable tracks, and multiple digital audio card support. Studio 16 3.0 will ship with both of SunRize Industries' digital audio cards, the AD516 and AD1012 beginning in November. The Studio 16/AD516 bundle has a list price of \$1495 and the Studio 16/AD1012 combination has a list price of \$595.

Pride Integrated Video displayed their PIV-2001 video editing system for the Amiga. The PIV-2001 software and hardware system allows your Amiga to have integrated editing capabilities. From cuts to fully integrated editing with the Video Toaster, the PIV-2001 completes any desktop video workstation.

Oxxi announced its new presentation and interactive production software, *VideoStage Pro*. *Videostage Pro* can easily create video and on-screen interactive presentations. Shows can incorporate text, graphics, video clips, and sound. Remote control via modem or network and built-in ARexx interface enable *VideoStage Pro* to develop applications in training, kiosk style information centers, and video catalogs.

DKB was present to show two of their latest creations, the Piccolo and the DKB 3128. The Piccolo joins the onslaught of 24-bit graphics cards, bringing with it Zorro II and III bus compatibility, 1MB or 2MB fast video RAM, true 16-bit and 24-bit modes, and fully programmable resolutions. The card also features double buffering and multiple screens. The DKB 3128 was billed as the "world's largest memory board." The 3128 allows you to bring your Amiga 3000 or 4000 up to 128MB of fast RAM. The board accepts standard 4, 8, 16, and 32MB SIMMs and can be configured in a variety of ways. The board is a true Zorro III 32-bit card. Fully populated, you could play back over 50 seconds of real-time animation from RAM.

MacroSystemsUS was on hand displaying some of their more popular Amiga products. VLab video acquisition program, TV Paint, their 24-bit paint package, and the display-emulating Retina board were on display as well as their new MultiFrame multiple image and video processing controller for Art Department Professional and Morph Plus. MultiFrame adds the freedom to create multiple effects over time by allowing the



British publisher, Bruce Smith, was on hand to introduce his entire line of Amiga books to an eager American market.

user to enter the values for all the complex operators and have the changes take effect over the number of frames that you need to generate.

Myriad visual Adventures announced a new training video, *Animation 202: Fractal Freedom*. The video is an intermediate course in Amiga animation. The first video in this series was a great success and the author adds a flourish of flying fractal scenery that is interesting.

IVS showed their latest creation, *MovieMaker*. *MovieMaker* is a sophisticated digital non-linear hard disk audio/video editing system for animators. It is a complete package and includes timeline based editor/player, 16-bit audio capture/playback card, AES audio editing software and system utility software.

Interworks showed several interesting new products. the first was a PCMCIA Ethernet adaptor for the A600 and A1200. The I-Card package includes a high-speed 16-bit Ethernet adaptor plus a SANA II compatible driver, allowing the A600 and A1200 to easily tie in to the popular ENLAN-DFS peer to peer networking software. The package also offers complete compatibility with other Amiga Ethernet based networking programs that follow Commodore's SANA II standard. The MSRP for this card is \$299.

Second from Interworks was the Photon-Accelerator plug-in module for LightWave 3D. The Photon-Accelerator allows LightWave 3D users to perform complex animations and effects with a powerful, easy to use graphic interface. The system features a 3-D character generator, follow-me motion, perfect for caterpillars and trains, non-linear time-based editing, and actor-oriented animation.

Finally from Interworks was the Toaster Net Render Farm software. Toaster Net brings tremendous power to any LightWave 3D user. Toaster Net allows rendering sequences of LightWave 3D frames, rendering selective frames from LightWave 3D scenes, and efficient delegation of rendering across a network for optimum speed. Toaster-Net requires the Toaster 3.0 software. The suggested retail price is \$349 for a five-system licence.

Heifner Communications was on hand to display their *Pegger* image compression software. *Pegger* automatically JPEG's files, saving time and disk space. Running in the background, *Pegger* provides seamless compression and decompression of 24-bit, DCTV, HAM8 and Toaster framestores. *Pegger's* ARexx capabilities allow the integration of *Pegger's* batch processing abilities with other programs that support ARexx. The list price for the *Pegger* application is \$99.95.

U.S. Cybernetics stunned attendees with their introduction of the WARP System transputer. The WARP Board uses advanced

parallel processing with Superscalar TRANSPUTER processors at speeds of 30 MIPS to several GigaFLOPS. The transputer is a 32-bit processor with an on-board 64-bit floating point unit that operates in parallel with the main processor. Each transputer chip has four serial links that allow it to communicate at speeds of 2MB per second with other transputers when linked in a network. Interfacing is performed through the WARP Board library and all programming on the board is done in C.

Company executives promised the system would be available by December. The basic system will be priced under \$1000 (Canadian) with a 30MB processor. Upgrades will be priced at \$700 to \$900 for additional transputers. A high end unit running at 200 MIPS will be available by the first quarter for \$1500 to \$2000.

While the WARP was running only demonstration software at the show, *Vista Pro* is promised by November with *ImageFX*, *CineMorph*, *Real 3D*, and more to follow. U.S. Cybernetics stated they were extremely interested in helping any interested parties in converting their software to their parallel processing system.

FARGO Electronics displayed their Primera Color printer, a full-color, low cost thermal transfer printer. FARGO also released a printer driver for the Amiga. The incredible thing here is that this printer will bring the high quality of a thermal wax transfer and dye sublimation printer to the Amiga for under \$1000. FARGO sells an upgrade kit that brings photo-realistic quality to the printer. The Amiga driver is being made available at no extra charge. It can be obtained direct from FARGO. The driver is compatible with all Amigas running Workbench 1.3 or higher. A minimum of 2MB of RAM is required, 4MB recommended.

Expert Services displayed their Picasso II graphics card. Picasso II provides greater resolutions and more speed than AGA systems and brings the ability to run AGA software on a non-AGA machine. The card brings resolutions up to 1280x1024 with 256 colors on screen. The Picasso II also supports custom screen modes with up to 16.7 million colors at resolutions as high as 800x600. The Picasso II comes packaged with *TVPaint Jr.* and drivers for *AdPro*, *ImageFX*, *ImageMaster*, and *Real 3D 2.0*.



WOCA was a great opportunity to see new Amiga products and talk directly with Amiga developers.



Interworks introduced a networking systems for Amiga 1200, 600, and Desktop systems.

Axiom Software announced two new products, *Anim Workshop 2* and *WaveMaker*. *Anim Workshop 2* is an animating editor for the Amiga. *Anim Workshop 2* supports all Amiga 4000 AGA modes, *Anim5*, *Anim7*, *Anim8*, animation create, process, edit, play, sound insertion and batch processing of images.

WaveMaker allows for the easy creation of LightWave 3-D animations with little or no 3D experience. *Wavemaker* was designed to make LightWave 3D animations easier.

Alpha Video has implemented Desktop Video Wizards Network, a desktop video dealer network, whose initial members represent 80% of the dealer Video Toaster sales in the U.S. Desktop video dealers who are members of the Wizards Network are kept informed through daily news broadcasts via a private network called Channel 4000. Channel 4000 is a graphical, interactive transmission sent through SCALA's InfoChannel and covers a wide range of topics in several different segments. Desktop video manufacturers sponsor the news and are also recipients of the daily Channel 4000 feed. If you would like more information on the Desktop Video Wizards, contact Susan White at 1-800-DTV-0008.

More Than Enough!

Due to the number of WOCA announcements and the pressure of press deadlines, please see next issue's *New Products* section for more products and expanded descriptions from WOCA. The next World of Commodore Amiga will be held in Toronto, December 3-5.

•AC•



DIVERSIONS

Air Force Commander

by Jeff James

Since the dawn of recorded history, the sun-baked lands of the Middle East have seen more armed conflict than possibly any other geographic region. From the campaigns of Alexander the Great to the fury of Desert Storm, the Middle East has always been considered a geographic area of vital strategic importance. With the release of *Air Force Commander* (AFC), Impressions and Golden Sector Design bring Amiga gamers a simulation of modern air combat over this turbulent region.

Unlike many other games involving combat aircraft, AFC does not require the player to jump into the cockpit of a fighter plane and directly combat the enemy. Instead, AFC places the player in command of entire squadrons of combat aircraft and support units. Using an icon-driven playing interface and three map levels, you must direct the airborne military units of a modern military. The goal—as in all military simulators—is victory. Achieving that victory requires that the player succeed in establishing at least one of three objectives: air supremacy/superiority over the enemy; demoralization of the enemy civilian population; or by turning international media opinion against your

foe. Once any one of these goals is accomplished, you win the scenario.

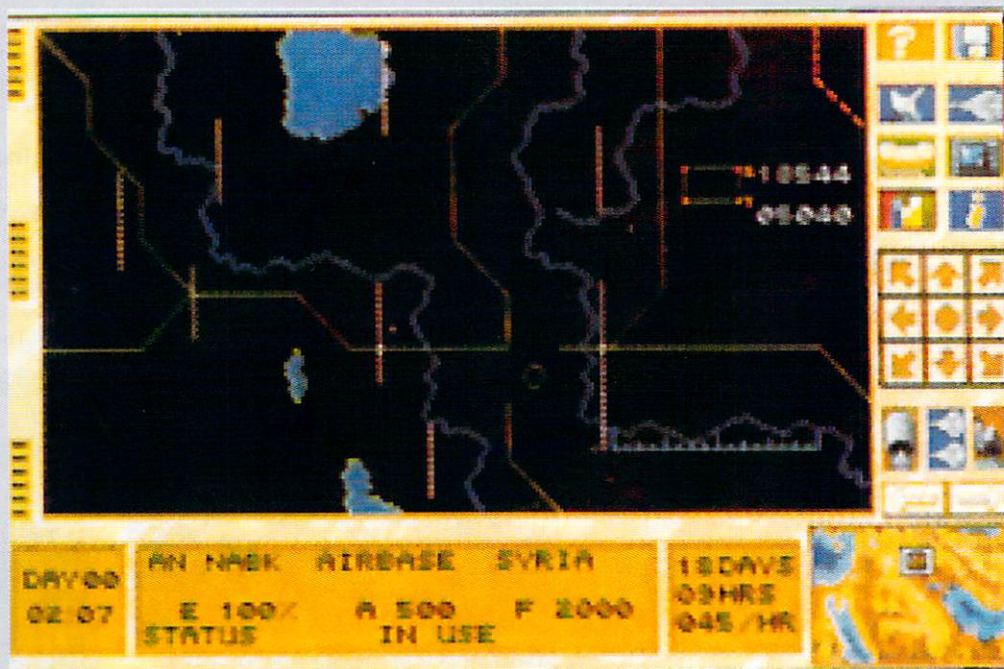
Speaking of scenarios, 28 of them are shipped with the game. The first few scenarios are fairly easy to accomplish, not so with the last dozen. In all scenarios, gameplay boils down to a race against the clock. You must activate squadrons, assign them targets, and get them in the air before they are destroyed by marauding enemy aircraft. Learning to juggle the demands of keeping squadrons in the air to attack the enemy while leaving enough of a reserve to defend against an incoming attack is possibly the toughest aspect of

the game. To help budding air force commanders more effectively manage the AFC playing interface, a point-and-click on-line help system is available. After you have activated the help system, moving the on-screen pointer over any game icon will elicit a description of that icon from the program.

In addition to this rudimentary on-line help system, AFC ships with two manuals: a seven-page Amiga addendum booklet and a 43-page instruction manual. Packed with game tactics and strategy tips, the instruction manual also contains a brief history of the Middle East, spanning the centuries between the crusades

and Desert Storm. A brief description of every unit in the game is also included to assist players in choosing the right weapons for the mission.

On the negative side, the single AFC program disk is hard-drive installable, but the process is decidedly user-hostile. Once installed on the hard-drive, AFC can be loaded only through the CLI—no icons allowed. AFC's graphics are decidedly modest, with just enough detail to differentiate separate aircraft and other units. Sound is nearly non-existent, and the game does sport a rather steep learning curve. If you're out to conquer all the scenarios in AFC,



be prepared to spend some time learning the ropes of strategic air combat.

Although the modest graphics, cumbersome hard-drive operation, and paucity of sound effects may deter some gamers, AFC still has plenty to offer. Strategy gamers looking to recreate the greatest air conflicts of the Middle East—from the 1973 Yom Kippur War to Operation Desert Storm—should find AFC more than up to the task, with the included scenarios offering enough “what-if” situations to satisfy even the most jaded Mid-East military buff. AFC isn’t for everyone: if you’re looking for more action and less strategy, you should pass AFC by. For those with an interest in the strategic simulation of modern air combat, however, AFC delivers the goods.

Air Force Commander
Impressions Software
7 Melrose Drive
Farmington, CT 06032-9812
(203) 676-0127
Inquiry #236

Flashback

by Henning Vahlenkamp

I was a bit amazed when Out of This World II, which the Europeans call Another World II, became available so soon after I wrote the preview in “Coming Attractions” (AC V8.9). Now that the game is released, it’s known as Flashback, and while it isn’t a sequel in substance, it is in spirit and style.

In Flashback, the hero, Conrad Hart, is an agent for the Galaxia Bureau of Investigation. Through the use of his new Molecular Density Analyzer, he discovered that some people had densities too high to be humans, thereby stumbling upon an alien plot to conquer humanity. Before long, Conrad is abducted and replaced by an impostor/spy, and his memory is erased, but he eventually manages to escape. The escape sequence is actually the demo I evaluated for “Coming Attractions.” After being pursued by the alien guards and crashing his hoverbike in the jungle, Conrad is presumed dead and left on his own.

Now the game begins as Conrad regains consciousness in

the strange artificial jungle of a colony on Titan, a moon of Saturn. He must get back to Earth to warn the authorities and thwart the alien plot, while regaining his memory too. But the first problem is to get out of the jungle and into the capital city of New-Washington.

Although the story is completely different and the physicist Lester Knight Chaykin from Out of This World (AC V7.9) is nowhere to be found, Flashback can still be called a sequel. Like its predecessor, Flashback is also a superior arcade adventure possessing an overall cinematic flavor. Wonderful non-interactive animation sequences develop the plot between and during the six levels. Passwords are provided when you complete a level so you don’t have to start from the beginning every time you play. Plus a few SAVE consoles are located in each level to save your status in memory. If or when Conrad dies, you may continue from the last memorized position. Flashback’s backgrounds are beautiful too, but more detailed and bitmap-oriented rather than polygonal.

The stunning character animation really got my attention. I don’t doubt the box’s claim of 24-frame-per-second screen updates—motion picture speed. All of Conrad’s movements including walking, running, tumbling, jump-

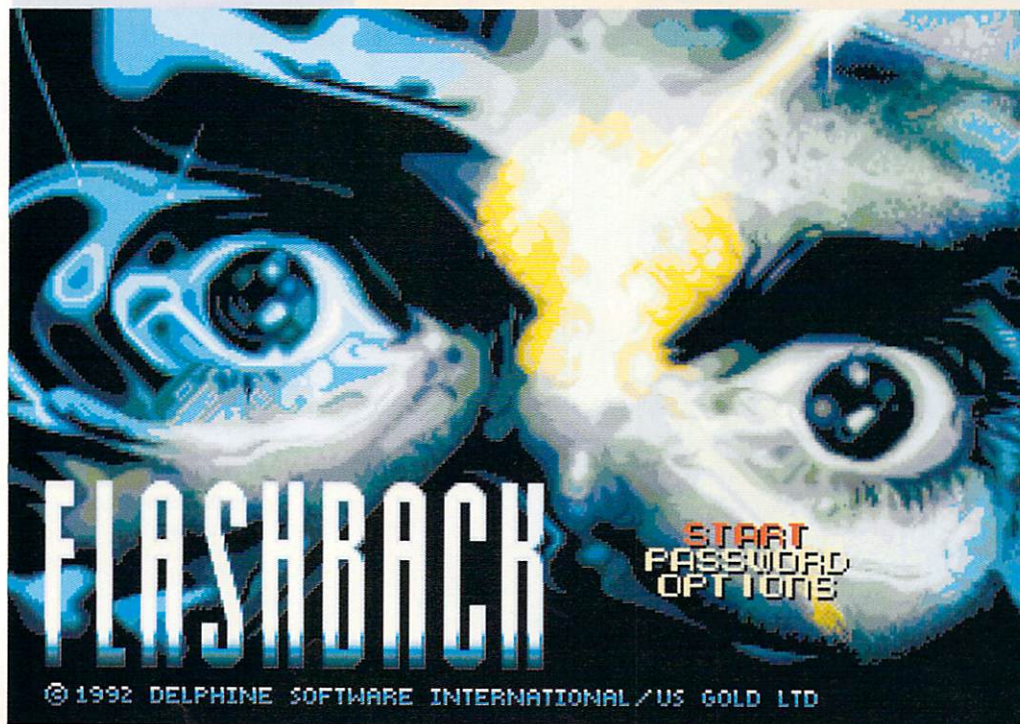
ing, climbing, and shooting are highly realistic. He even throws up his hands to block a smash against a wall, skids to a halt after running, and waves his arms to avoid falling off a platform edge. It’s easy to forget you’re controlling only a bunch of pixels on the screen instead of a real person. Among the best I’ve ever seen in an Amiga game, the animation readily surpasses that of the celebrated Prince of Persia—no small accomplishment.

You’ll discover controlling Conrad on his mission is so effortless that it doesn’t distract you from the game. Flashback supports both keyboard and joystick, although the joystick is better. The manual nicely illustrates all of Conrad’s movements, showing what to do step by step to duplicate them. It takes just a little practice to master them. Be prepared for some frustration if you don’t read the manual.

In addition to enemies, whom you must shoot with your gun, you’ll run across various items. Anything of interest that you pass is brought to your attention by an icon in the upper-left of the screen. There’s no limit to what you can carry, and virtually everything has a purpose. Puzzles involve using items in various ways, sometimes with locks and other stationary objects, completing tasks, and maneuvering around the platforms. Don’t forget to look for generators to recharge your protective shield—four hits and it’s depleted.

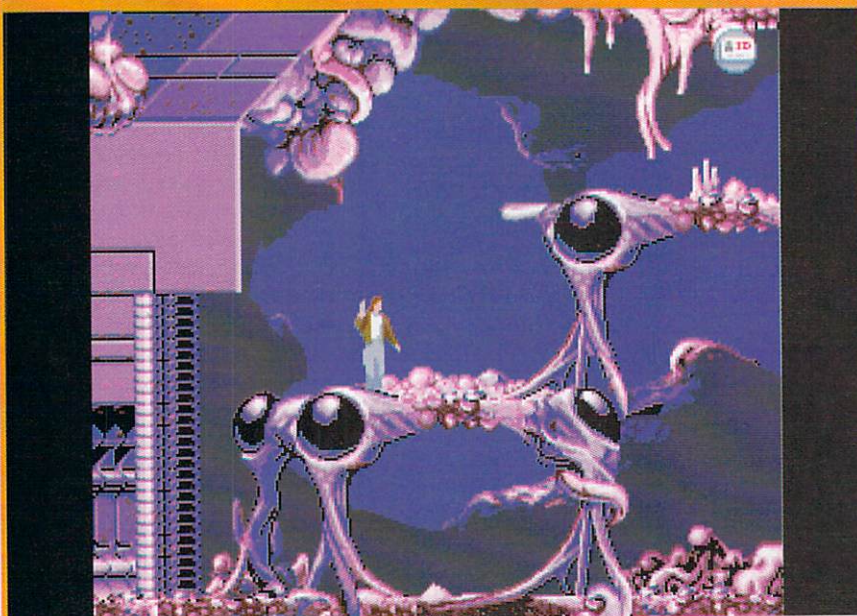
No review of Flashback would be complete without a few comments about the audio aspects. The cool, moody soundtrack provides the right atmosphere for an adventure in this high-tech future. Important situations and events are reinforced by appropriate music as well, adding to the movie-like feeling. Furthermore, sound effects such as the firing of your gun are expertly done.

A hefty 60-page manual thoroughly covers everything you need to know except how to win the game, of course. The first part mimics a news magazine from Titan, subtly relating important clues. The rest, including sections about running the game, objects, and





"I HAVE ERASED HIS MEMORY."



character movement, is required reading too for maximum enjoyment of the game. The manual also lists a number you can call for hints, although calling from outside of England will probably cost a good deal.

Several petty nuisances keep Flashback from perfection. The box claims Amiga 1200 (AGA) compatibility, besides all the non-AGA machines, but directly getting this requires booting from the floppies. Apparently it doesn't like the SetPatch command in the Startup-Sequence that enables AGA features. So to run the game from the operating system, select either "Original" or "Enhanced" from the early startup menu—something the documentation ignores. Claiming AGA compatibility while requiring fiddling with this menu is a dubious practice. You must also select PAL mode regardless of how you run the game, as there is no NTSC version. And there's a protection check before Flashback starts, consisting of flipping through the manual to find a matching picture. Fortunately the four unprotected disks install on a hard drive. Minimum memory is 1MB.

Although I criticize Flashback on some technical points, I take nothing away from the truly outstanding game itself. If you've played Out of This World, you'll appreciate improvements such as sufficient depth to occupy all but the best gamers for a long time, multiple difficulty levels, and the fact that deaths are fewer and further in between due to the predictable nature of enemies and pitfalls. Flashback combines the best of Out of This World and the platform action of Prince of Persia, creating a great cinematic experience.

Flashback
U.S. Gold Ltd.
 Units 2/3 Holford Way
 Holford, Birmingham B6 7AX.
 England
 tel: 021 625 3366
 Inquiry #237

California Games II

by Jeff James

With *California Games II* (CG2), Epyx attempts to give Amiga owners the opportunity to don the shades and beachwear of the boys and girls of summer. In CG2, you'll have the chance to compete in five disparate events: bodyboarding, snowboarding, jet surfing, hang gliding, and skateboarding. The ultimate goal is to become the penultimate summer athlete: the Supreme Dude, or Dudette, of beachdom.

First of these events is the hang-gliding contest. In this event, the player's on-screen alter ego is shown harnessed to a hang glider, ready to leap off the cliff and into flight. Using the joystick, he must guide your aspiring hang-glider through a variety of aerial maneuvers and stunts to earn points. Along the way he'll get the chance to drop a few water balloons on targets that scroll by beneath the hang glider. He has only five water balloons to toss; depending on the altitude at which he drops them, he gains from 10 to 2000 points for each target struck.

Next up is the snowboarding contest. In this event, the player must snowboard down the treacherous slopes of Mt. Epyx, trying to



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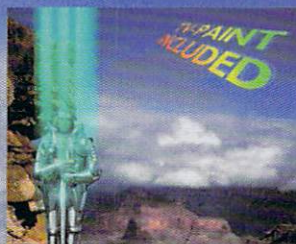


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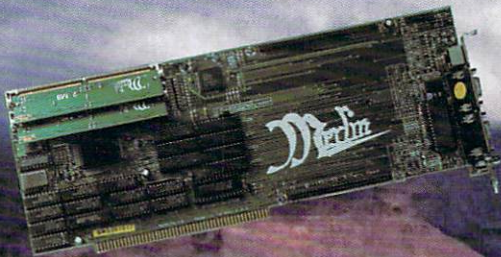


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reach the bottom as quickly as possible. Time is of the essence, and performing such stunts such as kick turns, edge ridges, and hand plants while en route to the base of the mountain will knock seconds off your overall time. Following the snowboarding event is the bodyboarding segment, which pits the player against a massive wave in a race back to the beach. Along the way he must dodge obstacles and perform a variety of surfing stunts, such as spins, cuts, and barrel rolls. The more stunts the better, as each stunt earns him extra points. The last two events—skateboarding and jet surfing—require that he manage a dry aqueduct and a ramp-filled water race course, respectively.

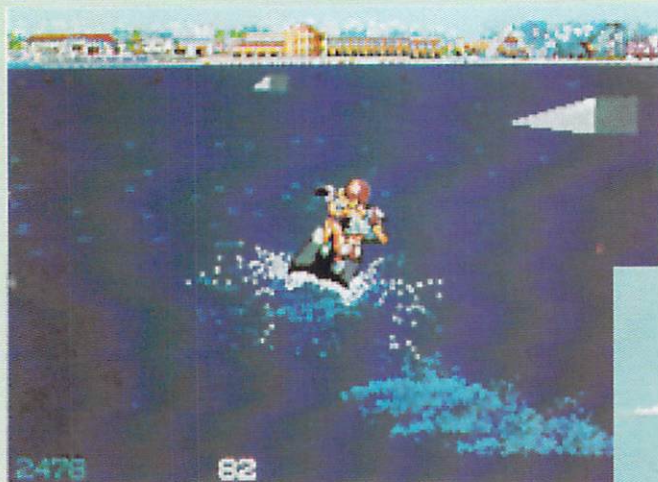
A port from the IBM version, CG2 uses trifle plain graphics; some events are more colorful than others, with the jet surfing and snow boarding events being the most impressive. Even at their best, the graphics in CG2 look downright homely next to some of the better Amiga-to-IBM conversions. However, the musical scores and sound effects in CG2 are nicely

done, recreating the sounds and music of the beach scene in full stereo. The brief 15-page instruction manual comes complete with an abbreviated dictionary of surfer terms, including bogus (disappointing), amped (excited), yo (hello), and other examples of Southern California vernacular.

On the negative side, CG2 offers little in the way of Amiga-specific amenities. Hard-drive installation isn't supported, and the game refused to work on my Amiga 3000. To add insult to injury, the copy protection codes—the "Times of High Tide"—are printed on dark, unreadable paper, making it a chore for legitimate owners just to get the game started. Ultimately, the Amiga version of CG2 reaches the finish line with too many strikes against it. Avid fans of the sporting events simulated in CG2 may find something to enjoy in the game. For less interested gamers, however, CG2 is simply too bogus to be worth the effort.

California Games II

Epyx
P.O. Box 8020
Redwood City, CA 94063
(415) 368-3200
Inquiry #238



Chaos Engine & Alien Breed Special Edition

by Jason D'Aprile

Fans of Shoot 'em ups should be rejoicing about now. Both the Bitmap Brother's *Chaos Engine* and Team 17's *Alien Breed Special Edition* are, well, great. Both are essentially the same type of top-down commando-style shooters, both have great sound and graphics, both are two-player simulations, and both are, to put it mildly, extremely difficult.

In *The Chaos Engine*, two characters out of six are chosen to embark on a very long, danger-fraught mission in order to destroy a mad inventor and his machine *The Chaos Engine* that has been mucking about with time and space as we know it. The game's obvious influence has come from the fantastically original Gibson/Sterling novel, *The Difference Engine*, which had to do with the possibility of a super computer in the 19th century, when the *Chaos Engine* seems to take place.

The game is always two player, whether or not a second human player joins you. The CPU will control player two in one-player mode and does it with some degree of intelligence. The fact that you can choose between six different characters is fantastic and adds greatly to playability and overall fun. Control is excellent, though I wish that there were another way to activate special powers other than just holding the fire button in; a second fire button option would have been nice here.

The password system is less than pleasant, however. The game will give out its password only after the full completion of a world—a step up from Bitmap's previous masterpiece, *Gods*, which gives out passwords only after the completion of a full level and the first section of the next. Another thing about the password is that it is very specific to whether the game you are playing is one or two player

and which characters have been chosen. The moral of all this is, choose your soldier's carefully; you'll be with them for a very long time. It would have been much more preferable to have general passwords and more of them. Be warned, this game makes *Gods* look like a cakewalk.

On another note, the digitized voice of the Englishman is superb, and the sheer diversity of monsters and scenery is fascinating, from crawling, disembodied hands and trolls, to hives of nasty bugs and evil versions of the player characters. Aside from the password complaints, this game is a virtually flawless example of its genre.

So, how can *Alien Breed* possibly compete? Well, it can, but for different reasons. This game is possibly one of the most blatant take-offs of the *Aliens* movies that I have ever seen, and on that basis I would recommend it to anyone who has been waiting for a game based on those movies. The whole game—the very long game, I might add—takes place on a far-out-in-space Federation Research Station, where the two or one poor space agent for the Interplanetary Corps finds himself trapped in the middle of an alien infestation. The atmosphere of this game—the sounds, the look, everything—is perfect. This is one of the very few games that have actually come close to scaring me. *Chaos Engine* is probably another, but for sheer, thick atmosphere, it doesn't compare.

Fortunately, all isn't hopeless here, as there are credits, ammo, and other bonus things to pick up strewn about the levels and the Intex Computer System is still online. Through Intex, the player can buy better guns, more supplies, get information about the level, and other neat things. In addition to that, Intex has a lovely, female English voice that warns you of things during the game. I have to admit that I'm a sucker for a game with liberal use of good digitized voice, and both *ABSE* and *CE* deliver.

At each level, the player will be required to perform a certain action in order to move to the next level. Aliens fans will especially love the parts of the game where

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you must set off detonaters in order to destroy a level and thereby prevent the aliens on those levels from hassling you anymore. During these sequences, the whole screen turns red for the countdown, and Intex keeps monotonously telling you, "Destruction Imminent." As I said, great atmosphere.

The password system is a bit more generous than *CE*, though you can activate it only on the first deck. Passwords come more often than in *CE* and allow for either one of two players. Player character graphics for *ABSE* are not nearly as good as those in *CE*, and *ABSE* is played from a straight top-down perspective, as opposed to *CE*'s rather isometric point of view.

Overall, there is a finite number of opponents in *CE*, as opposed to the very infinite supply of aliens in *Alien Breed*, and the option of choosing between six different characters, instead of just two carbon-copy characters, is a huge plus. Both games are immensely challenging and will take, quite literally, hours to win. *Chaos Engine* is also much more fun to

play in true two-player mode; in *ABSE*, the characters tend to keep getting in each other's way as they venture through the claustrophobic corridors and, after a while, the game becomes almost frustrating.

Both of these games are imports from Europe and, while *CE* runs perfectly on NTSC machines, *Alien Breed* comes with a simple-to-use PAL booter and runs fine after using that. So, if you like shoot 'em ups, these are two of the best I've seen in a while. Get either one of them or both. Happy hunting!

**Alien Breed
Team 17
Prospect House
Borough Road
Wakefield, W. Yorkshire,
England
WF1 3AB
011-44-924-291-867
Inquiry #239**

**Chaos Engine
Konami, Inc.
900 Deerfield Pky.
Buffalo Grove, IL 60089
(708) 215-5111
Inquiry #240**



Feedback

Letters to the Editor

edited by Paul L. Larrivée

Seize Control of CBM!

This is the first time I've written a letter to the editor of any publication, but I have to address the information written by the Bandito, V. 8.9. After saving for years for an Amiga, I finally purchased an A4000 in March. When I read the column, my heart sank. After several days of depression, however, it hit me! This is not necessarily bad news. This is opportunity staring every Amiga user in the face! We all know what an incredible machine we own. And now, even the most poverty-stricken among us can have an input into the way the company is run. At only \$2.75 per share, almost anyone can afford to buy a piece of Commodore. I for one am going to purchase 100 shares—about all I can afford right now. Using our local dealers or publishers such as yourself as conduits, we could organize our proxies.

I differ with the Bandito on the Amiga's impact on multimedia. Amiga is still the most affordable platform available to the small user, thanks in big measure to the reasonable cost of software. I see growing, begrudging praise made to the Amiga in the slick press. Strongly biased towards the Intel chip industry, the local pulp computer magazine, which has a lot of impact on the San Diego area market, devoted an entire issue to the Amiga, praising its performance and affordability—particularly in the multimedia arena. The local bookstores have recently added space on their shelves for the European Amiga periodicals. Further, *The Desktop Multimedia Bible* by Jeff Burger

lists the Amiga side-by-side with the Mac and Intel chip platforms. Here in the San Diego area, a community college is offering experimental classes in Digital Desktop Multimedia, using the Amigas and the Toaster. The spectacular results of that class have the college heads excited about the possibility of offering a certification in multimedia and eventually an AA.

So despite the greed and bumbling of the company leaders, we the users are making an impact on the industry. Our enthusiasm has saved the company in the past; I believe we can still save the company by purchasing it and firing the people who are so out of touch with reality. I'm afraid, however, if someone else buys the company, we will lose. If we own the company, and another company wants it, we as a unit can at least have some power to control its future.

Nell Bartusch
Lakeside, CA 92040

InterChange Plus and Pixel Pro

R. Shamms Mortier committed a grave injustice against *InterChange Plus* (V. 8.9). He begins by stating that *InterChange Plus* and *Pixel Pro* are the "leading object format translation packages," yet spends most of his words describing functions in *Pixel Pro* unrelated to translation and very little about the translation abilities of *InterChange Plus*.

Mortier didn't bother to list the many

formats supported by *InterChange Plus*. He specifically asked for review copies of our AutoCAD DXF and Wavefront Converters, and then failed to mention their existence. Yet Mortier spends a paragraph discussing *PAGErender*, a 3-D program that was discontinued years ago.

From our correspondence at the time of the review, Mortier was well aware of the flaws in *Pixel Pro*'s translations but never mentioned them in print. For example, *Pixel Pro* does not properly convert *Imagine* hierarchies. In fact, Axiom's technical support staff has recommended *InterChange Plus* to customers who complain about the inaccuracy of *Pixel Pro*'s translations.

InterChange Plus accurately converts between the two most popular 3-D packages in the Amiga market—*Imagine* and *LightWave*. It alone can exchange *Imagine* objects and *LightWave* scenes, preserving parent-child hierarchy, sub-objects, and surface information. *Pixel Pro* cannot.

As a final blow, the review concludes with a year-old address and a discontinued phone number. Our correct address is 235 South Main St., Jefferson, WI 53549, phone (414) 674-5200, fax (414) 674-6363.

We've just released *InterChange Plus* version 3.0. It now includes the 3D Studio, AutoCAD DXF, and Wavefront Converters.

John Foust, President
Syndesis Corporation
Jefferson, WI 53549

The following is Mr. Mortier's point-by-point reply to Mr. Foust's complaints.—Editor

- That I say too much about Pixel 3D's non-object format-related attributes and little about the object translators in InterChange Plus. Wrong, John, and besides, who are you to decide what is of interest to readers in a package? Some readers are interested that Pixel3D has a nicely designed user interface and in a host of some other tools. I never said that the packages were "only" object format translators, did I?

- "Mortier didn't bother to list formats supported by InterChange Plus..." If you had read the article carefully, I think you would have gotten the idea that InterChange Plus, like Pixel 3D Pro, is a specialized product. However, it must be pointed out that my original submission to *Amazing*, the following paragraphs and comparative charts were included but were probably omitted because of space considerations. I now present them:

InterChange Plus Converters

LightWave Projects	Pixel—yes
LightWave Scenes	Pixel—no
Imagine/Turbo Silver	Pixel—yes
Sculpt 3D/4D (scene and script files)	Pixel objects
VideoScape (1.0 & 2.0 ASCII & 2.0 binary)	Pixel—yes
PageRender-3D facet file	Pixel—no
ProDraw clip	Pixel—no
Aegis Draw clip	Pixel—no
InterFont font objects	Pixel—no
Statistics (text files about every facet of an object)	Pixel—no
IShape (ImageMaster ASCII files)	Pixel—no
VistaDEMs (landscape files)	Pixel—yes
CAD-3D (from Antic Software)	Pixel—no
Surface Converter (text files of attributes)	Pixel—no
Tools: Point Reduce, Scale, GridSnap	

"InterChange Plus also seems to be on the verge of establishing a deeper relationship with BlackBelt Systems' *ImageMaster* software. Right now, InterChange offers users the chance to purchase a module for ImageMaster that will allow it to load and save Macintosh PICT bitmap file formats. Various package prices are also offered for the InterChange ad-ons..." Though Mr. Foust will probably think that the preceding was left out because either I or *Amazing*

wants to harm him, editorial decisions to excise text is based on space and/or redundancy. The InterChange section still reads fine without it but now readers can ponder this news as well.

- Mr. Foust's complaint of my mention of *PageRender* as one of his converters. No apology, John. Many folks I speak with still own and use it, and are attracted to your product because of it. Why complain?

- "Mortier was well aware of flaws in Pixel Pro's translations but never mentioned them in print..." John, please look carefully at the third paragraph in the InterChange section. I look at your capabilities positively instead of blasting what Pixel 3D can't do, probably what you would like to see.

- Complaint about the old address. I can only list what I see, not what you have failed to send me.

R. Shamms Mortier
Bristol, VT

Where in the Mediterranean Is A.A.?

A short time ago, I received a letter from someone who lives in the Mediterranean area. He was looking for assistance in using *Imagine* from Impulse and requested that I write him. I would be pleased to assist him, but he neglected to include a return address. His name is Anehean Achellers.

Mr. Achellers, if you're reading this, please send your address and explain any problems you might be having to me in care of *Amazing Computing*, and I will be happy to reply.

Marc Hoffman
Julesburg, CO 80737

As with Marc Hoffman, please write to any AC author at the address listed at the end of each article. —Editor

Amigas Rub Shoulders wih Leno

I thought I'd write to point out another mass-media Amiga appearance. On NBC's "The Tonight Show with Jay Leno," August 12, Billy Idol sang two songs from his *CyberPunk* album. Clearly displayed on stage and integrated into the performance were two Amigas—a 4000 and a 2000—outfitted with Video Toasters. Controlling a 25-foot video wall, the machines were used to create awesome live video effects. Although the Amigas were nicely shown

off to the millions of viewers, I just wish that they had been mentioned by name.

On a less pleasant note, in the August '93 issue of *Popular Science*, an article discussed next-generation operating systems for personal computers that totally ignored AmigaDOS but mentioned ones with much smaller installed bases—NextStep and Solaris x86. The article appeared to imply that the powerful, graphical true-multitasking OS for personal computers was something new, ignoring the fact that the Amiga had such capabilities since 1985. Such press really hurts the machine's credibility as a major platform. Did Commodore notice this?

Henning Vahlenkamp
Matawan, NJ 07747

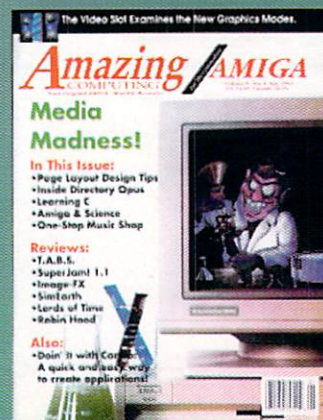
Probably not.—Editor

Please write to:

Feedback Editor
c/o Amazing Computing
P.O. Box 2140
Fall River, MA 02722-2140

Readers whose letters are published will receive five free disks free of charge.

•AC•



AC's Back Issue

I n d e x

Vol.7 No.7 July 1992

Highlights Include:

"Modem Rundown", A comprehensive look at modems for the Amiga
 "G-Force 040", a review of GVP's 040 accelerator, by Rich Mataka
 "SuperJam", a review of this superb music maker from The Blue Ribbon Soundworks, by John Steiner
 "Foundex", a tutorial using Foundation's stacks and scripts, by Dave Spitzer
 Plus, a look at telecommunications and the Amiga including hardware, software, and services.

Vol. 7 No. 8 August, 1992

Highlights Include:

"Digi-View 4.0", by Matt Drabick
 "GVP's Digital Sound Studio", review by Matt Drabick
 "3D Effects from 2D Amiga Art", tutorial by Shams Mortier
 Plus:
 Super ARexx Column for July!
 Video Toaster UpDate featured in The Video Slot!
 And Much More!

Vol.7, No.9, September, 1992

Highlights Include:

"Professional Calc", review of Gold Disk's premier accounting software by Bill Frazier.
 "True Basic 2.0" A review of the latest release of the True BASIC language by Paul Castonguay.
 "Developing Desktop Savvy", a special project for your favorite DTP software. Using specialty papers to create brochures and pamphlets, by Pat Kaszycki.
 "The Video Slot" This month, learn about the new features of Imagemaster, by Frank McMahon.
 Don't miss AC's super game coverage in *Diversions*.

Vol.7, No.10, October 1992

Highlights Include:

"Amiga Warrior," Commodore's newest Amiga is a fighter capable of bringing the best of the Amiga to the American consumer.
 "MegagameM's CellPro," a review by Merrill Callaway.
 "Multi-colored Text in DPaint III," A tutorial to produce dazzling effects with your text, by George Haasjes.
 "Game Creation with AMOS," create your own Amiga game, by Jack Nowicki.

Vol.7, No.11, November 1992

Highlights Include:

"Amiga 4000," Commodore creates a bold new direction in Amiga computing with expanded graphic resolutions, modular CPU, and more.
 "Progressive 040/2000," a review by Rick Mataka.
 "Remap Magic," Learn why this tool is your best bet for making use of your palette.
 "Beginning C," Chue Xiong covers some of the basics of the C language.

Vol.7, No.12, December 1992

Highlights Include:

"Polishing Basic Programs," Marianne Gillis shares the secrets of BASIC programming experts.
 "Banners," A tutorial on creating banner-length printouts, by Pat Kaszycki.
 "Structured Drawing & TueBASIC," paul Castonguay shows how TrueBASIC fully supports any level of hierarchical structure.
 Also, complete reviews of Voyager 1.1, PIXOUND, VistaPro 2.0, and OpalVision.

Vol.8, No.1, January 1993

Highlights Include:

"Creating a Storyboard in Final Copy," see how to layout your animation storyboard in Final Copy, by R Shams Mortier.
 "A Look at 24-bit Libraries," Shams Mortier looks at 24-bit libraries.
 "Using Laser Disk Players with the Amiga," Rom Battle examines the benefits of laser disks as a source of video images. He also shows an easy way to set them up.
 Plus: A complete review of the new A1200 & coverage of Comdex Fall 92 & the FES-London.

Vol.8, No.2, February 1993

Highlights Include:

"Extending the AMOS Sort," Dave Senger looks at the AMOS sort function.
 "Business Cards," Soft-Logik's Dan Weiss gives an in-depth tutorial on how to create your own business cards.
 "AD1012," a review by Rick Manasa.
 AND! A special sneak preview of the One-Stop Music Shop from Blue Ribbon & complete coverage of the WOCA Toronto!

Vol.8, No.3, March 1993

Highlights Include:

"Babylon 5," the Amiga changes the way TV shows are made, by les Paul Robley
 "AmigaVision Projects," by William Murphy
 "Art Expression," review by Merrill Callaway
 PLUS: Creative business forms & CES Winter '93

Vol.8, No.4, April 1993

Highlights Include:

"TriplePlay Plus & SyncPro", reviews of two great music products by Rick Manasa
 "CanDo," a review of the application development system from INOVAtronics, by Rob Hayes
 ALSO: Super VideoSlot for April, ARexx, cli, and great Diversions!

Vol.8, No.5, May 1993

Highlights Include:

"Directory Opus", review of the latest version of Directory Opus and a start-up tutorial by Merrill Callaway
 "Media Madness," explores the inside of Blue Ribbon Soundwork's new Media Madness, by Todor Fay & David Miller
 "SuperJAM 1.1," a review of the latest release of SuperJAM! by Rick Manasa
 "ImageFX," review by R. Shams Mortier
 ALSO: Super VideoSlot for May—The New Graphics Modes!

Vol.8, No.6, June 1993

Highlights Include:

"AMOS Turns Professional", review of a major upgrade hailed as a comprehensive development system, by Jimmy Rose
 "Searching Medical Literature," using the Amiga to tap the vast resources of medical on-line services, by Dr. Michael Tobin
 ALSO: Newsletter Design, ARexx Programming, Hot Diversions

Vol.8, No.7, July 1993

Highlights Include:

"TypeSMITH 1.0", review of Soft-Logik's new font editor, by Merrill Callaway
 "OpalPaint 2.0," review of the latest version of this paint program for the OpalVision board, by R. Shams Mortier
 "Structured Drawing," basic features and advanced techniques, by Dan Weiss
 "DeluxePaint IV AGA," review of the latest paint package for the AGA machines, by R. Shams Mortier
 ALSO: Super VideoSlot, ARexx, and New Products!

Vol.8, No.8, August 1993

Highlights Include:

"Amiga Vision Professional", review Commodore's upgraded authoring system, by Douglas J. Nakakihara
 "Art Department Professional 2.3," review of the latest release of AdPro from ASDG, by Merrill Callaway
 "Professional Page 4.0," the latest incarnation of Pro Page, by Rick Manasa
 "Pseudo Radiosity Effects," why ray tracing is not an accurate model of true light behavior, by Mark Hoffman
 "T-Rexx Professional", a review of the latest release of T-Rexx from ASDG, by Merrill Callaway
 ALSO: AC Phone Book: A directory of Amiga Developers!

Vol.8, No.9, September 1993

Highlights Include:

"Adventures with Aladdin", Part III of this tutorial series on Aladdin 4D, by R. Shams Mortier
 "CanDo," First installment of this series for CanDo programmers, by Randy Finch
 "Caligari 24," Review of version 3.0 of this 24-bit software, by R. Shams Mortier
 "Coming Attractions," A look into the future attractions in Amiga games, by Henning Vahlenkamp
 ALSO: WOCA—Australia & Summer CES!

Vol.8, No.10, October 1993

Highlights Include:

"Making Waves", Focus on the wave requester in Part IV of the Aladdin series, R. Shams Mortier
 "Clouds in Motion," Animated clouds in Scenery Animator, by R. Shams Mortier
 "Media Madness," Discover what it can do for Bars&Pipes, by Rick Manasa
 "Bars&Pipes Professional 2.0," review by Rick Manasa
 "Bernoulli MultiDisk 150", A review of this great Iomega drive.
 ALSO: Commodore's new CD32!

AC's TECH, Vol. 2, No. 1

Highlights Include:

"Build Your Own SCSI Interface" by Paul Harker
 "CAD Application Design—Part III" by Forest Arnold
 "Implementing an ARexx Interface in Your C Program" by David Blackwell
 "The Amiga and the MIDI Hardware Specification" by James Cook
 —and more!

AC's TECH, Vol. 2, No. 2

Highlights Include:

"Programming the Amiga in Assembly Language Part 2", by Forest Arnold
 "Implementing an ARexx Interface in Your C Program, Part 2", by David Blackwell
 "Iterated Functions Systems for Amiga Computer Graphics", by Laura Morrison
 "MenuScript", creating professional looking menus easily and quickly, by David Ossorio
 And Much More!

AC's TECH, Vol. 2, No. 3

Highlights Include:

"HighSpeed Pascal," by David Czaya.
 "PCX Graphics," by Gary L. Fait.
 "Programming the Amiga's GUI in C—Part 5," by Paul Castonguay.
 "CAD Application Design Part 4," by Forest W. Arnold.
 And Much More!

AC's TECH

AC's TECH, Vol. 2, No. 4

Highlights Include:

"In Search of the Lost Windows," by Phil Burke
 "No Mousing Around," hide that annoying mouse pointer with this great program, by Jeff Dickson.
 "The Joy of Sets," by Jim Olinger
 "Quarterback5.0," a review by Merrill Callaway.

AC's TECH, Vol. 3, No. 1

Highlights Include:

"Comeau Computing's C++," A review of this great new C compiler by Forest Arnold.
 "Programming the Amiga in Assembly Language Part 5," by William Nee
 "Make Your Own 3D Vegetation," Laura Morrison shows how to use iterated functions to create 3D trees and plants.
 PLUS! The HotLinks Developer's Toolkit ON-DISK!

AC's TECH, Vol. 3, No. 2

Highlights Include:

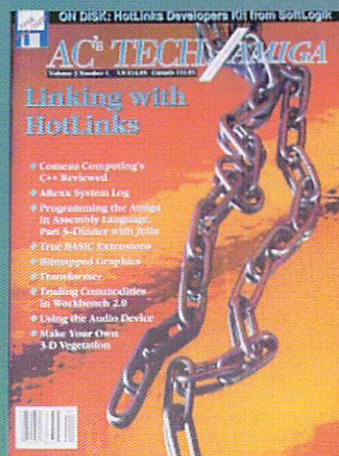
"Olé," An arcade game programmed in AMOS BASIC, by Thomas J. Eshelman.
 "Programming the Amiga in Assembly Language Part 6," by William Nee
 "Wrapped Up with True BASIC," Text and Graphics wrapping modules in True BASIC, by Dr. Roy M. Nuzzo
 "ARexx Disk Cataloger," An AmigaDOS manipulator that produces a text file containing information about the floppy disks you want cataloged, by T. Darrel Westbrook
 AND LOTS MORE ON DISK!

1-800-345-3360

WHAT HAVE YOU BEEN MISSING? Have you missed information on how to add ports to your Amiga for under \$70, how to work around *DeluxePaint*'s lack of HAM support, how to deal with service bureaus, or how to put your Super 8 films on video tape, along with Amiga graphics? Do you know the differences among the big three DTP programs for the Amiga? Does the ARexx interface still puzzle you? Do you know when it's better to you use the CLI? Would you like to know how to go about publishing a newsletter? Do you take full advantage of your RAMdisk? Have you yet to install an IBM mouse to work with your bridgeboard? Do you know there's an alternative to high-cost word processors? Do you still struggle through your directories?

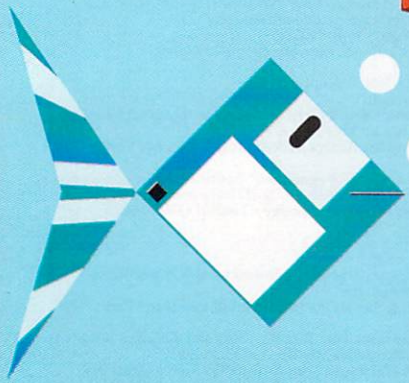
Or if you're a programmer or technical type, do you understand how to add 512K RAM to your 1MB A500 for a cost of only \$30? Or how to program the Amiga's GUI in C? Would you like the instructions for building your own variable rapid-fire joystick or a 246-grayscale SCSI interface for your Amiga? Do you use easy routines for performing floppy access without the aid of the operating system? How much do you really understand about ray tracing?

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 can be found in
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 Computing and AC's TECH
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**Amazing Computing
 AC's TECH
 AC's GUIDE**



THE Fred Fish Collection

Below is a listing of the latest additions to the Fred Fish Collection. This expanding library of freely redistributable software is the work of Amiga pioneer and award winning software anthologist, Fred Fish. For a complete list of all AC, AMICUS, and Fred Fish Disks, cataloged and cross-referenced for your convenience, please consult the current **AC's Guide To The Commodore Amiga** available at your local Amazing Dealer.

Fred Fish Disk 900

ColumnsA A GUI-based "paper-saving" utility. Allows you to print text in columns and use various compression modes (up to 160 characters per line and 180 lines per standard DIN A4 page). 5.6 times more characters than in usual modes, but still readable. Written completely in assembly. Kickstart 2.0 and 3.0 compatible. Kickstart 2.0 look, Keyboard controls and saveable settings. Version 2.5, binary only. Author: Martin Mares, Tomas Zikmund

PopperReplaces Intuition menus with popup menus which appear under the mouse pointer instead of in the top of the screen. You can also "rip" menus from the menu-bar and keep them on the screen as a window all the time (or close them with the close gadget, of course). Version 1.1, binary only. Author: Pierre Dak Baillargeon

Robouldix Playable demo of a game based on BoulderDash. Uses 32 colour graphics, senses and adapts to PAL and NTSC. Over 500 different objects in the registered version. (About 40 in the demo version). Requires at least one megabyte of memory. Binary only. Author: Svante Berglund, Patrik Grip-Jansson

Touch Amiga version of the Unix utility with the same name. Touch changes the date and time stamp of all specified files to the current date and time. Workbench 2.0 wildcards are supported. Requires OS2.0, includes source. Author: Dave Schreiber

Fred Fish Disk 901

AmigaBase A hierarchical, programmable database that runs under OS 1.3 and OS 2.0. Has a full intuition interface. Features include two display methods, filter datasets, search datasets, print datasets, and much more. Nearly everything can be realized by programming AmigaBase. Datatypes can be Integer, Real, Boolean, String, Memo (Text), Date and Time. Number of datasets is only limited by available memory. Also included in the package are some example projects. Version 1.31, an update to version 1.21 on disk 813. Shareware, binary only. Author: Steffen Gutmann

Fred Fish Disk 902

DWFPresets Some OverScan, Palette, Pattern and Pointer presents. Some will look a bit odd in modes other than HiRes-Interface mode and default colors. If you're using Release 2.04, you'll be able to click on the icons and change the presets without having to use the Prefs tool. Author: David W. Ferguson

Error

CLI utility to print a message text for AmigaDOS errors along with probable causes and suggestions for recovery

Less

(From AmigaDOS manual). Version 1.0, includes source. Author: Njal Fisketjøn

A text file reader, descended from Unix "Less." Less has features found on no other Amiga file reader; it can use pipes, accepts multiple filenames, and has many convenient positioning commands for forward and backward movement, marking positions, etc. This version adds an option to suppress opening a new window, using the existing CLI window instead (especially useful with an AUX: shell), and includes some minor bug fixes. Version 1.6Z, an update to version 1.4Z on disk number 511. Includes source in SAS C 6.3. Author: Ray Zarleng et al.

SitChr

Allows users of ASDG's CygnusEd Professional to select a character via point-n-click rather than having to remember (or lookup) the ascii keycode for it. Useful for entering international, special, or infrequently used characters. Version 1.1, fixes a bug present in version 1.0 on disk number 890. Includes source in C. Requires AmigaDOS 2.0. Author: Njal Fisketjøn

VirusZ

A virus detector that recognizes over 220 boot viruses and over 115 file viruses. The filechecker can also decompile files for testing. The memory checker removes all known viruses from memory without "Guru Meditation" and checks memory for viruses regularly. VirusZ has easy to use intuitionized menus including keycuts for both beginners and experienced users. VirusZ performs a self-test on every startup to prevent link virus infection. Written entirely in assembly language and operates with Kickstart 1.2/1.3, OS 2.0 and OS 3.0. Version 3.07, an update to version 3.00 on disk number 820. Shareware, binary only. Author: Georg Hörmann

Fred Fish Disk 903

ArmyMiner An ultimate "XMiner-type" game that integrates all of the best aspects of the previous Amiga versions of the game. Options include: Automatically mark or clean the neighbours of a square; Safe start (no explosion at first click); Safe click (gadget-like behavior for squares); Question marks (for configuration analysis). You can also specify your own custom board settings. The game has a very useful pause option, sound effects, high-score tables and a very nice interface. It works under OS v1.3 or 2.0, NTSC or PAL. Version 1.4, an update to version 1.1 on disk number 875. Binary only. Author: Alain Lefebvre

MICE

My Image Code Editor. MICE generates source code from standard IFF pictures. Can generate either assembly or C source. Version 1.3, an update to version 1.2 on disk number 590. Binary only. Author: Pierre-Louis Mangard

QDisk

A WorkBench 2.x/3.x equivalent to the cli info command and more. QDisk will monitor your AMIGA DOS devices at specified intervals defined by tool types. There are also tool types to position all windows and set a warning flag when space usage becomes high. Version 1.1, an update to version 1.0 on disk number 853. Binary only. Author: Norman Baccari

SuperDuper

A very fast disk copier and formatter. Can make up to four unverified copies from a ram buffer in 36 seconds. Verified copies from a ram buffer take 67 seconds for one destination drive, plus 34 seconds for each additional destination. This is version 3.00, an update to version 2.02 on disk 753. Includes a program to fine tune some fields in the trackdisk device, and a "no click" type program. Binary only. Author: Sebastiano Vigna

TaskE

A GUI based task manager. It provides you with information on running tasks and allows you to clean up behind failed tasks by closing their windows and screens. In addition, you can attempt to remove tasks by sending them CTRL-C signals, and simply by disabling them. Version 37.1, includes source. Author: Michael D. Bayne

Viewtek

A feature packed Picture/Animation Viewer. Shows most ILBM's (including 24-bit ILBM's), most Compuserve GIF format images, most JFIF format JPEG images and most ANIM Op-5 format animations, with support for different palettes for each frame. Supports SHAM, CTBL, and PCHG images, full support of ECS/AGA display modes (ie. show 256 color GIF's directly, show 800x600 HAM animations, etc.). Supports viewing contents of clipboard. Iconifies to a Workbench Applcon. Includes a version written for GVP's Impact Vision 24, to support true 24-bit display. Version 1.05, an update to version 1.02 on disk number 787. Requires Workbench 2.04+, binary only. Author: Thomas Krehbiel

Fred Fish Disk 904

ATS "AfterTitleS", this program will scroll a large iff picture up the screen, for the purpose of creating video credits or other effects as you see fit. Version 1.0, includes source. Author: Jakob Gårdsted

CxPak

A set of five commodities: AutoClick - a window activator; WClose - close windows easily; WCycle - cycle screens or windows; WDrag - drag windows without having to find the title bar; WSize - resize windows without having to find the sizing gadget. Version 1.0, includes source in assembly. Author: Pierre-Louis Mangard

Fill

Smart Multi-file Mover/Copier. Moves/copies files from the specified directory to a specified destination. Optimizes space on destination by using a "best-fit" algorithm. Capable of filling every byte on a floppy without splitting files. CLI-usage only, version 1.1, includes source. Author: Barry Willis

IdleLED

Turns the power LED off when the CPU is idle. It operates using timerA on CIAB. This is continuously reset by the idle task running at low priority (-127). When the idle task is preempted by anything, the timer is allowed to underflow causing the interrupt server to run which turns on the power light. Next time the idle task runs, it immediately turns off the power light. Version 1.0a, includes source. Author: Lindsay Meek

Term

An update to the binaries released on disks 831 and 832. This is an update only and contains several bug fixes to the

executables released in that series. To obtain full benefit from the package, you should also obtain the documentation and support files on disks 831-833. Version 3.4, binary only. Author: Olaf 'Olsen' Barthel

Fred Fish Disk 905

Action A program for starting other programs dependent on file types. Files are shown, unpacked, executed, etc. dependent on a chosen action. Executes (multiple) commands for each passed file appropriate to the file type, which are described in a action definition file. Version 1.0, binary only. Author: Michael Suelmann

DTree

Similar to "Tree" on the IBM PCs, displays a devices "Tree" heirarchy. While similar programs exist for the Amiga, they don't use standard input/output. Standard i/o makes many things possible, like piping, i/o redirection, etc. Version 1.0, includes source. Author: Sam Yee

Eval

A full-featured floating point expression evaluator that can assign variables, has many built-in functions and constants, allows input and output in any number base, and uses a C-like syntax for expression evaluation. Full ANSI C source is included and easily portable to other platforms. Version 1.13, an update to version 1.12 on disk number 857. Includes source. Author: Will Menninger

MultiUser

Allows you to create a Unix-like environment where several users live together in harmony, unable to delete each others files, unable to read those private love-letters of other users... And this even if several users are working on the machine at the same time (on a terminal hooked up to the serial port) Version 1.4, requires OS2.04+ and a hard drive, binary only. Author: Geert Uytterhoeven

NullModem

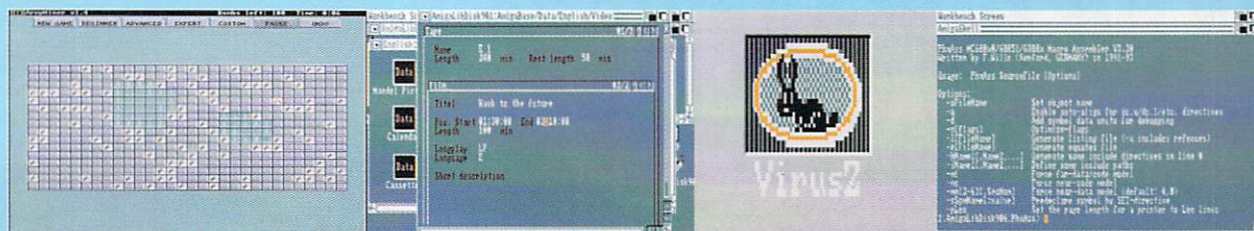
A software device that imitates two modems and a phone line, on one machine. I wrote it whilst looking at the WPL scripting language, so that I could play around without having to spend any money on expensive phone calls, but it can be used for testing various other programs. Version 2.0, binary only. Author: Iain Hibbert

TWC

Two Way Chat & Send enables you to make use of your modem's full-duplex feature in fact, it can save you up to 50% transmission time. With TWC you can connect to another guy running TWC, then you may transmit fileAND chat-data at the same time in both directions. GUI-driven, requires OS2.04+. Version 3.101, an update to version 2.03 on disk number 801. Binary only, shareware. Author: Lutz Vieweg

Fred Fish Disk 906

BackDrops A friendly 2.x Prefs program for your Workbench that will allow you to keep a list of your favorite backdrops and have a new one appear each time your computer is rebooted. Requires NickPrefs or a similar program to display the backdrop. Version 1.00, binary only. Author: Ross MacGregor



Fresh Fred Fish Disks 901 to 910 contains (from left to right) **ArmyMiner** is an ultimate watch-your-step game (FF903), **AmigaBase** is a hierarchical programmable database (FF901), **VirusZ** is a virus detector that recognizes over 220 boot viruses and over 115 file viruses (FF902), **PhxAss** is a complete macro assembler for 68000, 010, 020, 030, 040, 6888x, and 68851 plus a variety of programs and utilities.

MagicMenu Replaces all Intuition menus, supporting both "pull-down" and "pop-up" menus. Menus can be displayed in either the Standard look, or the modern AmigaOS 2.0 style 3D-Look, and controlled exclusively using the keyboard, (no need to grab the mouse anymore!) Configurable handling and appearance. Remembers every menu's last selected item, displaying Pop-Up menus the next time at a position allowing quick selection of the same or neighboring items. Automatically brings the currently active screen (if not visible) to the front for menu selection then returns it to the back after a selection is made. Input timeouts, plus much more! Version 1.27, binary only. Author: Martin Komrdörfer

Move A compact, fast CLI move command that allows the moving of files over multiple devices. It will perform a "true" move (a la rename) when files are being moved around on the same device, making it very fast, while still being able to perform moves over multiple devices. Move will also allow you to move file links, and supports all standard 2.x wildcards. Version 2.2a, requires Kickstart 2.04 or higher, binary only. Author: Asher Feldman

PhxAss PhxAss is a complete macro assembler, which supports the instruction-set and addressing modes of all important Motorola processors (MC68000,68010,68020,68030,68040,6888x and 68851). It understands all common assembler-directives and can generate not only linkable object-files but also absolute code, which can be written to memory, to a file or directly to disk using the "trackdisk device". In all cases the user has the opportunity to choose between the large and small code/data-model. Version V3.30, an update to version V3.00 on disk number 853. Binary only, shareware. Author: Frank Wille

PowerData Patches AmigaDOS, enabling all programs to read and write files packed with PowerPacker in way that is completely transparent to themselves and the system. Programs will read powerpacked datafiles directly, and will also magically start compressing their own datafiles, as they create or update them. Version 38.200, an update to the version 38.115 on disk number 841. Partially localized for use with Workbench 2.1. Requires Workbench 2.04+. Binary only, shareware. Author: Michael Berg

Fred Fish Disk 907
AmiQWK QWKMail format offline message system. Allows reading of QWKMail format offline message packets popular with many bulletin board systems (BBSes). Replies can be edited using any text editor and packed for transfer at a later time. AmiQWK has been tested with many QWKMail systems for IBM and Amiga based BBSes. Requires Workbench 2.04 or higher. Release 2 version 1.0. Shareware, binary only. Author: Jim Dawson

CyberPager The CyberPager software allows one to send alpha-numeric pages from

one's Amiga. This is accomplished by dialing into an IXO protocol compliant pager central and uploading messages. Features include: Alias files for commonly paged people to be referred to by name rather than cryptic PIN numbers; "Groups" file allowing messages to be easily sent to many people working on the same project, same department, etc; Supports multiple pager centrals through a Services configuration file; Full logging of messages spooled, dialout attempts, etc. and much more. Requires AmigaDOS 2.0+, includes source. Author: Christopher A. Wichura

DD A directory scanner, something like DIR or LIST, but it does much more. It can use many different types of file lists, sort file lists, analyse file contents, display statistics, search for identical files and so on. Version 1.0, binary only. Author: Martin Mares

VideoTitrer Generates professional looking TV titles and credits for your own videos. Outstanding abilities are very smooth scrolling, color slides (AGA-support) and usage of colorfonts. Limited demo version only. Version 1.1, binary only, shareware. Author: Andreas Ackermann

ZGif A VERY fast, and very small GIF display, ideally suited to the new AGA machines, but also provides a quick greyscale display for older machines. Main features are: SMALL; CLI interface; AGA fully supported, 24-bit palette utilized; Asynchronous file reading; comes in 68020+ and 68-nuthin versions. Version 0.4, binary only. Author: Michael Zucchi

Fred Fish Disk 908
DviDvi Converts a DVI file into another DVI file, with perhaps certain changes. It allows for example printing of two or four pages per sheet of paper or doublesided printing. Version 1.0, includes source. Author: Tomas Rokicki, Amiga-Port and implementation of PasTeX-Support by Jochen Wiedmann

GoldED1A GUI-based editor with lots of functions/options. Highlights include: OS3.x look & functions (AppWindows, MenuHelp); Folding of paragraphs (unlimited nesting available); Menus fully customizable (easy-to-use requesters); Macro recorder; ARexx port (about 250 commands/options); AutoRefs capability (includes, autodocs, sources, ...); HotKey activation; Automatic phrase completion, based on dictionary; Smooth display, fast scrolling; Unlimited number of windows; ASCII character selection window; AutoBackup (any interval); Online help, (AmigaGuide); Insertion/removal of columns; Clipboard support; Project files; Smart indentation; DICE compiler frontend, (GUIMake) ...and much more! Part 1 of a 2-part distribution, part 2 can be found on disk number 909. Version 0.94, binary only. Author: Dietmar Eilert (GoldED) & Rico Krasowski (GUIMake)

HFK Yet another TitleBar clock that tries to look like part of your Workbench title bar. It actually opens a very small, nondraggable window in the upper right corner of the screen. HFK opens on the

default public screen, which will usually be Workbench. HFK uses almost 0% of CPU time, as it is written very efficiently in C, taking advantage of the timer.device, and only once a minute to render the time. Version 39.35. Requires Workbench 3.0, binary only. Author: Herbert West

MegaView A "Multi-View" kind of program for use with Workbench 2.0. It uses the whatis.library (included) to recognize the filetype of a file with which it is invoked to run a filetype-specific program. MegaView can be used from the Shell, from Workbench, as Default Tool in project icons, as an Applcon or as an AppMenuitem. Version 1.03, public domain, includes source. Author: Hans-Jörg and Thomas Frieden

Fred Fish Disk 909
GoldED2A GUI-based editor with lots of functions/options. Highlights include: OS3.x look & functions (AppWindows, MenuHelp); Folding of paragraphs (unlimited nesting available); Menus fully customizable (easy-to-use requesters); Macro recorder; ARexx port (about 250 commands/options); AutoRefs capability (includes, autodocs, sources, ...); HotKey activation; Automatic phrase completion, based on dictionary; Smooth display, fast scrolling; Unlimited number of windows; ASCII character selection window; AutoBackup (any interval); Online help, (AmigaGuide); Insertion/removal of columns; Clipboard support; Project files; Smart indentation; DICE compiler frontend, (GUIMake) ...and much more! Part 2 of a 2-part distribution, part 1 can be found on disk number 908. Version 0.94, binary only. Author: Dietmar Eilert (GoldED) & Rico Krasowski (GUIMake)

Fred Fish Disk 910
DefPubScreenA little wedge that makes the front-most screen the default public screen. If the front-most screen isn't a public screen, nothing changes. It wedges into the vertical blanking interrupt server chain and watches Intuition's record of the front most screen. When the front-most screen changes, the main task is signaled and responds by making the front-most screen the default public screen if possible. This is all totally transparent and happens very quickly, and is very handy for people who have separate screens for Shell windows etc. Version 2.00, binary only. Author: Matt Francis

DSound DSound is an 8SVX sound sample player that plays samples directly off a hard drive, without having to load an entire sample into memory first, making it possible to play samples of any length even under limited memory conditions. Version 1.30, an update to version 1.20 on disk number 729. This version fixes some bugs and adds a display to the DSound window that shows the length of the sample and the amount played so far, both in minutes:seconds format. Includes source. Author: Dave Schreiber

IEv4Demo An icon editor which can create and modify icons up to 640x256 pixels in size, up to 256 colors, edit all non-graphical icon parameters including up to 40 tooltypes, import/export IFF images, recolour icons for DOS2.0, write text into icon in any font and style, scale icon images, edit default icons, select screen resolution and magnification for editing, and much more! Demonstration version of IE version 4.0, update to IE on disk number 621. This version runs MUCH faster and uses MUCH less memory! Requires Workbench 2.04+. Binary only. Author: Peter Kiem

PowerCache A new, user friendly, completely configurable disk caching system. Has tons of features, including a font sensitive GUI, multiple unit caching, selectable read-only or read/write cache mode, cache-in-a-file option, statistics graphs, a low memory handler, a full ARexx interface and more than 100k of AmigaGuide documentation, to mention a few. Online help is (optionally) available everywhere using AmigaGuide. Installs as a simple commodity and is of course hotkey controllable. Requires at least Kickstart 2.04. Certain bonus features require 3.0 or later. Localized, CatComp source included. Version 37.64, binary only, shareware. Author: Michael Berg

WBKillAGA Workbench interface for Jolyon Ralph's "KillAGA" program, providing a short program that can be used as the "default tool" for an icon. Also includes a utility to convert many icons at a time. Original KillAGA distribution included. Author: Fabian Nunez, KillAGA by Jolyon Ralph

To Be Continued.....

In Conclusion

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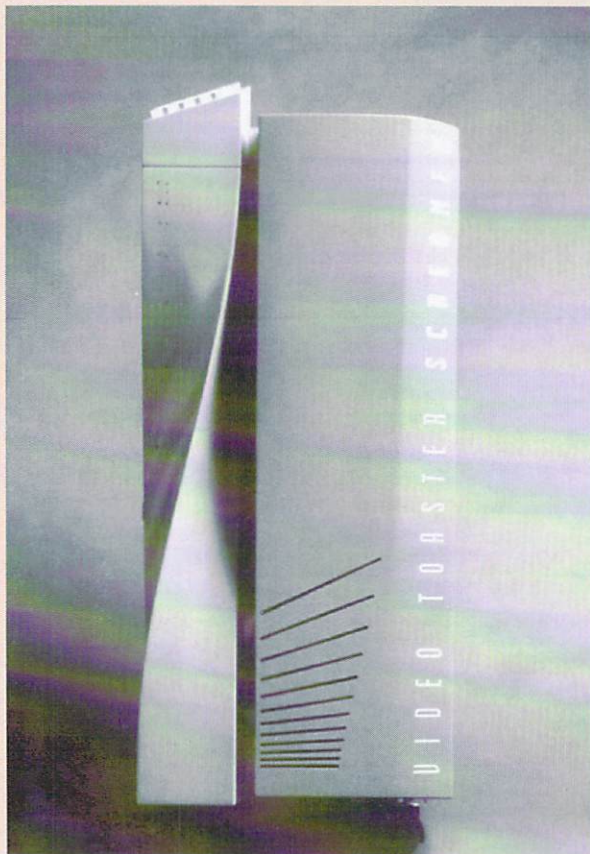
Screamin' Toasters!

NewTek has announced the Screamer, an external 3-D rendering engine for the Video Toaster. The Screamer's multiple high-speed RISC processors drive the Video Toaster's *LightWave 3D* animation program, providing extremely fast and cost-effective rendering.

The introduction of NewTek's Video Toaster Screamer is about to cause a revolution in the 3-D industry. Now, creating animation can take less time than before. The Screamer 3-D rendering engine elevates the Video Toaster into one of the fastest 3-D tools ever created.

The Screamer is a breakthrough 3-D rendering engine designed specifically for NewTek's Emmy-Award-winning Video Toaster system. The stunning computing speed of the Screamer is a result of a design based on multiple RISC processors. Four parallel MIPS R4400 RISC processors allow the Screamer to deliver over 600 MIPS system performance. By running each processor at 150MHz with both internal and external caches, the Screamer reaches an amazing 340 SPECMarks.

The Toaster Screamer system comes complete with NTSC video IN and OUT and takes full advantage of the LightWave 3D animation system. The Video Toaster and LightWave have been credited with bringing 3-D visual effects to weekly television for the first time. With complex 3-D effects sequences in every episode, shows such as *Babylon 5* and Steven Spielberg's *seaQuest DSV* are setting new standards.



In other NewTek news, the Video Toaster has captured the attention of the Academy of Television Arts and Sciences. The design group at NewTek won Emmys for developments in television engineering. The Engineering Committee recommended that the NewTek development team and president Tim Jenison be awarded the Emmy. In another credit to the Video Toaster, the Toaster users at Foundation Imaging responsible for the 3-D animation in *Babylon 5* are slated to receive Primetime Emmy Awards for outstanding individual achievement in special effects. Viewers of the 45th Annual Primetime Emmy Awards on September 19 also viewed 3-D animations created on the Video Toaster by Jennifer McKnew of the Post Group.

Amiblin Television is utilizing the Video Toaster and LightWave 3D animation software to produce the underwater effects on NBC's *seaQuest DSV*. The ease and low cost with which special effects can be created on the Toaster opens up creative opportunities for television writers and producers, freeing them from the restraints and costs imposed by conventional production methods. Viewers have the prospect of increasingly amazing special effects to look forward to as well as the opportunity to create television on their own, using a Toaster with their camcorders or VCRs.

Specifications:

Video Toaster Screamer: \$9,995 (available 4th quarter '93)

An external rendering engine for the Video Toaster

Processors: Four parallel MIPS R4400 - 64-bit superpipelined RISC processors

Clock Speed: 150MHz.

Memory: Internal Cache: 32K on each processor

Secondary Cache: Up to 8MB

Program Memory: expandable to 1 gigabyte

Requires Video Toaster Workstation

(Complete Toaster Workstations available starting at well under \$5,000)

Complete Toaster and Screamer Workstation:

The Toaster/Screamer workstation represents a radical breakthrough in 3-D workstation price and functionality. It comes complete with everything needed including broadcast-quality video input and output as well as a complete set of sophisticated 2-D and 3-D software tools.

Video Output:

Broadcast-quality frame buffer and digital YIQ video encoder (D2 format internally). Meets or exceeds all RS-170A and FCC specifications for direct on-air network broadcast.

Video Input:

Full broadcast resolution NTSC video field or frame capture.

Built-in Graphics Software:

ToasterPaint - 24-bit broadcast video paint system.

LightWave 3D - Modeling, rendering, and animation system.

Modeler - Includes Boolean operations, spline and polygon tools with PostScript text support.

Renderer - Includes adaptive anti-aliasing renderer with raytracing, shadow-mapping, motion blur, field rendering, and lens flares.

Animation - Includes skeletal systems, spline-based motion paths, displacement mapping, object morphing, and more.

For more information contact: NewTek, 215 SE 8th St., Topeka, KS, 66603, (913) 354-1146, (800) 843-8934

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(please check all that apply)

O 1. Amiga 500	O 4. Amiga 1200
O 2. Amiga 600	O 5. Amiga 2000
O 3. Amiga 1000	O 6. Amiga 3000
	O 7. Amiga 4000

B. If none of the above, which do you plan to buy soon?

O 7. Amiga 4000	O 10. Amiga 1200
O 8. Amiga 3000	O 11. Amiga 600
O 9. Amiga 2000	O 12. Amiga 500

C. Which Amiga hardware product do you plan to buy next?

O 11. memory expansion	O 15. modem
O 12. hard drive	O 16. music tool
O 13. IBM emulators	O 17. video product
O 14. printer	O 18. accelerator
	O 19. other (please specify):

D. Which Amiga software product do you plan to buy next?

O 20. C language	O 27. spreadsheet
O 21. Forth language	O 28. database
O 22. Modula-2 language	O 29. financial
O 23. Assembly language	O 30. video
O 24. BASIC language	O 31. graphics
O 25. entertainment	O 32. music
O 26. telecommunications	O 33. other (please specify):

E. How much money are you likely to spend on all Amiga product purchases this year?

O 34. \$0-\$250	O 38. \$1501-\$2000
O 35. \$251-\$500	O 39. \$2001-\$4000
O 36. \$501-\$1000	O 40. over \$4000
O 37. \$1001-\$1500	

F. Where do you buy Amiga products?

O 41. local Amiga Dealer	O 43. manufacturer
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G. How many times have you purchased an Amiga product after seeing it in *AG*?

O 45. frequently	O 47. once
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I. How many others not including yourself usually see or read your issue of *AG* each month?

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O 54. read virtually everything, cover-to-cover
O 55. scan through pages and read items of interest only
O 56. check table of contents and maybe read 1-2 articles
O 57. read my favorite column(s) only
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O 60. yes—two or more times.	O 62. no—not interested.
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| <input type="radio"/> 3. Amiga 1000 | <input type="radio"/> 6. Amiga 3000 |
| | <input type="radio"/> 7. Amiga 4000 |
- B. If none of the above, which do you plan to buy soon?
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| <input type="radio"/> 13. IBM emulators | <input type="radio"/> 17. video product |
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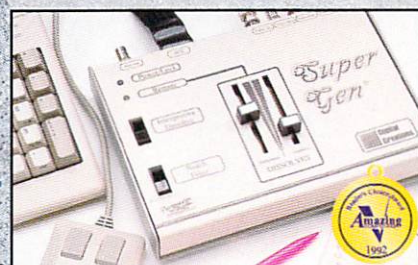


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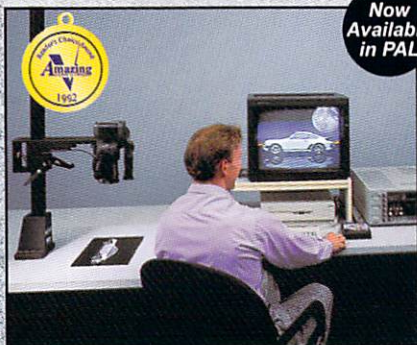
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